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LONDON AND ITS MONUMENTS.

LONDON is a city of numerous but not very beautiful monuments—that is to say, of monuments used to commemorate historical events or signal actions or merits of great men and kings. In buildings it is rich enough, and there are few cities which can show in such small compass—the comparatively confined limits of the City—an equal wealth of fine architecture in the manner of the XVIIth and XVIIIth centuries. Yet, when we consider the number of sculptors who have helped to build up our art history from the time of Nicholas Stone, when we remember the galaxy of men who, by example, by immortal work in literature and art, by heroic action in the field and on the high seas, have helped to give almost every street in London a history, we are surprised to find how relatively few are the monuments, our memorials to these heroes whose names are household words. It were useless here to enumerate all the omissions.

One looks in vain for a figure from the hand of Nicholas Stone, who fashioned some of the noblest effigies for sepulchral monuments. Neither have we anything from that other sculptor, Caius Cibber, father of Colley Cibber, the actor-dramatist and sometime Poet-Laureate, who carved the Phœnix of the south pediment of the Metropolitan Cathedral, besides manifold works in the interior. Side by side with Cibber we have, of course, Grinling Gibbons and Francis Bird. The latter, to whose hand we owe the west pediment of St. Paul's, carved with a representation of the conversion of St. Paul, can hardly be said to be "represented" by a statue which never received the imprint of his hand, for the so-called "replica" of his statue of Queen Anne in front of the Cathedral is nothing more than a very inferior invention executed by R. Belt.

Grinling Gibbons has left us the pedestal of the equestrian statue of Charles I. at Charing Cross and the fine figure of James II., now in St. James's Park. And here, again, we recognise the inscrutable taste of the Londoner. The art of a great man is so meaningless to him that he cannot even find a suitable home for it, and it is lodged here and there, now in one place, now in another, until its peregrinations become a byword. And this brings us to its antithesis. When Trafalgar Square was laid out, opportunity stood expectant—and we gave her the Nelson Monument. But it is characteristic of our procedure that thirty-nine years elapsed from the time of the planning of the Square to the unveiling of Landseer's lions. The Royal Mews, which formerly occupied the site, were cleared away in 1829, and a few years later the National Gallery was built from the designs of Wilkins. The column, designed by Railton, was built in 1842, and a few years later Baily's statue was set up. In 1855 Barry designed the fountains, and it was

The Monument, E.C.: Panel at base of west side.
Sir Christopher Wren, Architect.
(By permission of Mr. B. T. Batsford.)

not until 1868 that the lions at the base of the column were added.

London, as we know it to-day from its buildings, may be called modern, dating in reality from the rebuilding after the Great Fire of 1666. It is reasonable that a monument should have been built to signalise what was in its time a tremendous calamity. "The Monument," of which a sketch will be found on one of our Plates, by its very name, as by other considerations, the first and most important, marks the place of the outbreak of the fire. And it is not without significance that it should have been designed by Wren, who in the making of the New London performed a unique and momentous part, whose soul, as it were, irradiated, like some lambent flame, the new stones of the metropolis, making them to gleam out with something of its own comeliness and grace and gentleness.

"In the year 1671," to quote from "Parentalia," "the Surveyor began the building of the great fluted Column of Portland Stone, and of the Dorick Order (commonly called the Monument of London, in memory of the burning and rebuilding of the city), and finished it in 1677. The Artificiers were obliged to wait sometimes for stones of proper scantlings; which occasioned the work to be longer in execution than otherwise it would have been. It much exceeds in Height the Pillars at Rome, of the Emperors Trajan and Antoninus, the stately remains of Roman Grandeur; or that of Theodosius at Constantinople. In forming the Coloss Column, the Surveyor took the Liberty to exceed the received Proportion of the Order, one Module, or Semi-diameter. In the Place of the Brass-Urn on the Top (which is not artfully perform'd and was set up Contrary to his Opinion) was originally intended a Coloss Statue in Brass gilt, of King Charles the Second, as Founder of the new City; in the manner of the Roman Pillars, which terminated with the Statues of the Cæsars; or else, a Figure erect of a Woman crowned with Turrets, holding a Sword, and a Cap of Maintenance, with other Ensigns of the City's Grandeur and Re-erection. The Altitude from the pavement is two hundred and two feet, the diameter of the shaft or body of the Column is fifteen feet, the ground bounded by the plinth or lowest part of the pedestal is twenty-eight feet square, and the pedestal in height is forty feet. Within is a large staircase of black marble, containing three hundred and forty-five steps, ten and a half inches broad and six-inch rising. Over the Capital is an Iron Balcony, encompassing a Cippus or Meta, thirty-two feet high, supporting a blazing urn of brass gilt. Prior to this, the Surveyor (as it appears by an original drawing) had made a design of a pillar of somewhat less proportions, viz.: fourteen feet in diameter and after a peculiar device. For, as the Romans expressed by Relievo, in the pedestals, and round the shafts of their Columns, the history of such actions and incidents as were intended to be thereby commemorated; so this monument of the Conflagration and resurrection of the City of London was represented by a pillar in flames; the flames blazing from the loopboles of the shaft (which were to give light to the stairs within) were figured in brass-work gilt, and on the top was a Phœnix rising from her ashes, of brass gilt likewise." The panel of the pedestal towards the west, a photograph of which we are able to reproduce herewith, is carved in low-relief representing Charles II. in Roman dress, attended by figures representing Fortitude, Victory, Justice, Liberty, Architecture, and Natural Sciences, coming forward to the aid of a languishing female (London), who is supported by Time, whilst "Expedition in Manual Arts," symbolised by other figures, and Citizens form a background to her. In this group, besides fragments of architecture, a beehive is the symbol for Industry. Immediately under Charles, Envy tries to rekindle the Conflagration. Above these two groups, which are placed to right and left, is a third, with Peace and Plenty floating on a cloud. In the background London (buildings in this instance) is shown, with scarce extinguished flames, being rebuilt. We are indebted to a contemporary engraving of this carving for the elucidation of its bald allegory. The composition is somewhat arbitrary, like the sign ∴, but in execution, the relief given to the sculptures, the posing and massing of the figures make the panel architectural—that is to say, it looks part of the base. The salamanders placed at the corners of the base of the column are also valuable architectural additions, and tend to join the pedestal to the superstructure.

The Roman models referred to above are both carved with a spiral frieze extending from the base to the capital, a decoration in the defence of which little can be said, as they are about 150 ft. high, and it is impossible to see the carving. La Colonne de Juillet in Paris, which was built about 1837, from the designs of Duc, is some 160 ft. in height, and, although it has a Corinthian capital, it is so designed that it does not cut off the statue, Le Génie de la Liberté, from the column. Yet, in spite of the success of the Corinthian pillar in this instance, it is not nearly so good for the purpose as the plain Doric. The small column in front of Santa Maria Maggiore, at Rome, crowned with a figure of the Virgin, employs this Order, without any great measure of success, and our Nelson Monument is a conspicuous failure. The latter is modelled after those of the Temple of Mars, but how well suited soever for the peristyle of a temple, it is quite unfitted for the use to which it has been put.

The pedestal of Nelson's Column is ornamented with bronze reliefs of the actions of Trafalgar, St. Vincent, Aboukir, and Copenhagen by different artists, but none possesses particular merit. Nor are

the Landseer lions much better. It is very perfunctory work. Nothing could well be more unlike one's conception of a lion than these four lamb-like creatures that almost bleat at the passer-by. The paralysing strength, the nobility of the king of animals is entirely lacking in these poor, abstracted bronzes. The Egyptian sphinxes with lions' bodies guarding Cleopatra's Needle on the Embankment are far more effective.

Trafalgar Square, with its not undistinguished background, as some critics would have us believe, with its beautiful church of St. Martin's-in-the-Fields, and with its equestrian statue of Charles facing down the noble thoroughfare of Whitehall, has as fine a site as any in Europe, yet there is scarcely any more ugly *place* in the world. The sun even cannot inspire it to beauty, and in the grey days it is very distressing. Yet knowing, as we so well do, our exiguous climate, we do little to alleviate its rigours. Nature in her bounty has given us a beautiful stone that Wren and his successors knew how to use so well, which gleams from among the black London buildings as something rare and beautiful. Yet Portland stone seems to be too precious for the sculptor, who takes, instead, from the frozen North that most unsympathetic material, granite, and flaunts it everywhere. The Square wants greensward, and the lightsome stone, and fountains that play with the magic of falling waters. The statues may have to stay for a hundred years to come until an enlightened public is born which realises that art is the expression of an attitude towards life of joy and gladness. At present Trafalgar Square shows its limitations well enough—it disregards art altogether. We can imagine Hamo Thornycroft's figure of General Gordon to be worthy of the man it commemorates were it placed on a fine pedestal. Where it stands, however, it is utterly lost in a kind of empty wilderness, and if we should chance on it as an oasis, how little it can be relied on to satisfy one's thirst! The figure, conceived with dignity and admirably modelled, seems ready to topple down from its insecure eminence. To judge by results, we must assume that sculptors consider the modelled figure the be-all and the end-all of art. To artists it is but the beginning.

But what shall we say of the other statues in the Square? It were best unsaid. And yet hard by is Charles I., by Le Sueur, standing on its fine pedestal. How beautiful it appears beside all the mock art around it, dwarfed as it is by the ever-increasing scale of London! Yet in itself everything is in scale. The horse, limited as to modelling, is yet inspired by classic chargers, the horses in whose necks thunder abided, the horses of the Parthenon, of Verrocchio, of Donatello, of Leonardo; the rider has his due importance, not undue, as is so customary to-day.

The equestrian statue of George III., by Wyatt, in Pall Mall, possesses some beauty when viewed on the left flank, although it is very ugly from the front, and it is a more competent work from the decorative point of view than the two equestrian statues by Chantrey of Wellington in front of the Exchange, and of George IV. in Trafalgar Square. In the latter, apart from other considerations, there is no harmony between the two elements—the man is too large, too unrelated to his horse. The horses of Boehm (Napier of Magdala in Waterloo-place, and Wellington at Hyde Park Corner) are, on the other hand, rather fine in design; they are conceived in a realistic way, as if a photographic pose had been reproduced. The Prince Consort has not been fortunate in his memorials, and his equestrian statue at Holborn Circus is perhaps the ugliest in London.

Of the other equestrian statues which one recalls in London, Onslow Ford's Field-Marshal Lord Strathnairn is the best, with the exception of Watts's "Physical Energy." Onslow Ford took the trouble to get a good pedestal designed—it is modelled after the "Colleoni" at Venice—and it is a pleasant change from the thoughtless conceptions of the majority of pedestals. "Physical Energy" is a fine work of art. It has been criticised for the unfinished quality of the modelling, but surely this is scarcely valid when so much that is finished to the last iota possesses no quality at all. Seen at the end of a long vista of trees in Kensington Gardens with the lights breaking through the foliage, it is incomparably noble. It is action and youth personified. But the committee who set it up made a great mistake in placing it so near the ground and on such an ugly shapeless base. The South African replica—Rhodes Memorial—is placed on the brow of a hill with a background of a range of pillars and the mighty hills.

Marochetti's Richard I. in Old Palace Yard is a theatrical, uninspired work, set up on a polished red granite pedestal of very poor design.

Of the more recent statues in London, one, to the Duke of Cambridge, is equestrian. If it is a conscientious work, it has certainly but little art to make it a thing of beauty, and it is difficult to conceive anything more puerile than the relief of a sentinel at one end of the pedestal. The pedestal itself is obviously based on that of Charles I. Its main features are reproduced, but the proportions which make the latter a little masterpiece—that is to say, the relation between the pedestal and the horse—is entirely different and inferior.

The equestrian statue is perhaps the most difficult sculptural problem. All preliminary, and the great part of the sculptor's lifelong study is that of the human figure, and a certain strangeness of necessity attaches to the horse. Hence he attacks the problem with some feeling of diffidence, and makes elaborate preparations with anatomical studies, to eventually reproduce an anatomically correct but lifeless reproduction of the life. The ideal which differs with each individual genus in the animal kingdom eludes the hand that has not the understanding to grasp it. And so art is continually fleeting.

The Quadriga, recently placed above the arch on Constitution Hill, is a successful attempt to solve this classical subject. Here the sculptor has an adequate base provided for him, and the Quadriga gains immeasurably in being associated with reasonable architecture. This work of Capt. Adrian Jones is very much better than the Boadicea of Westminster Bridge

The four statues in Waterloo-place—Lord Clyde, by Marochetti, 1868; Lord Lawrence, by Boehm, 1882; Field-Marshal Sir J. Burgoyne, by Boehm, 1871; and Sir J. Franklyn, by Noble, 1866—vary considerably in merit, but gain very much from their positions in the gardens; indeed, the whole appearance of this *place* is much pleasanter than Trafalgar Square. The "Guards'" or "Crimea" Monument and Lord Napier of Magdala, both also in Waterloo-place, are interesting in design: it is the latter that *must* be removed if this site is finally adopted for the King Edward Memorial. A more drastic alteration is better. If we could be sure of getting a real monument the infallible place for it is where the York Column now stands. But not only should this go—to the Embankment, east of Waterloo Bridge—but the "Guards'" and "Napier" as well. The latter can be set up in Trafalgar Square, and another fine river site could be found for the former. As they stand at present they are unsatisfactory because they stand in a row, and it is quite futile taking away one monument merely to substitute another.

The Albert Memorial has become a kind of touchstone in taste. Certainly we have moved away from that, and, however we consider the Queen Victoria Memorial in front of Buckingham Palace, we cannot but admit it to be an improvement on the earlier one.

The "Achilles," just inside Hyde Park, was designed by Westmacott in 1822 "To Arthur, Duke of Wellington, and his brave companions in arms." It is a copy of one of the colossal figures of Castor and Pollux in the Piazza del Monte Cavallo, at Rome. That it does not look so well as its original is entirely due to its unfortunate position, as to which a suggestion worth careful consideration is made in another article in this issue. None of the arts can stand alone, and it is the disregard of this truism which leads to our many lamentable failures.

The several monuments placed in the Embankment Gardens compare very favourably with those in the rest of London, and, of course, gain by their setting, although they have been placed quite regardless of design.

In Whitehall are two recent statues, one of the Duke of Devonshire and one of Clive; the latter statue, by Tweed, is vigorously modelled and graceful in pose. The Gladstone Monument in the Strand is noticeable from the fact that it varies from the accepted type. It consists of a portrait statue with groups of figures at the four corners, but, in spite of the sculptor's ability, the whole conception lacks unity. Sir Henry Irving's statue is one of the latest additions to London, and it seems extraordinary that its design was not considered more in relation to the National Portrait Gallery.

It is scarcely possible, nor is it desirable, to enumerate all the monuments in London in the limit of one article. Generally speaking, if we except equestrian statues, one idea seems to run through them all—to model a standing portrait-figure and place it upon a pedestal. From this may result many fine gallery-pieces, but it will never make fine monuments.

The design of a monument must begin at the foundation and work to its crown. It is useless making a crown without having something seemly on which it may rest, so that one may react on the other to their mutual advantage.

There is still one monument it is necessary to mention by reason of its conception as part of an architectonic scheme. It may be considered as poor or indifferent art, but, for ourselves, we choose to let the eye take delight where it will, and it loves to linger where Captain Coram stands, the uttermost outpost of an almost cloistered stillness. (See Plate.) The long screen walls, with the low buildings at the extremities, the arches, and the nice punctuation by the figure in the middle, the wide forecourt with its rows of limes leading to the quiet of the Foundling Hospital, make surely a very beautiful arrangement. It is a lesson in disposition and in elimination of everything that might distract the attention.

We may regret lost opportunities, but it boots not, if we do not use our knowledge for the future. We can recover these things no more than a London laid out by the genius of Wren or the ingenuity of Evelyn. Whatever may be humiliating in recollection may not be without use in pointing a right way into the unfledged years. Yet in the matter of public monuments we seem to have learnt nothing from the past; we seem to consider that the main thing is to collect and spend money; whereas the important thing is to find the artist. "They order things better in France," as the sentimental traveller has it, for there statues and monuments are numerous, and, what is far better, they are usually works of art. We want more monuments, and it will be passing strange if we do not discover merit and perchance genius. To practise the sculptor's art is costly, even in the cheapest form of clay or casting in plaster; it gets scarcely any chance of being exhibited (the Royal Academy, as everyone knows, gives it the most meagre accommodation), and much less of being executed in the more permanent and beautiful marble or cast in bronze. Mr. Derwent Wood executed a remarkable figure of Atalanta in marble; it makes a peregrination of the few galleries which exhibit sculpture, till it gets mutilated in going to the Rome Exhibition. Atalanta made a definite farewell, but what happens to all the other figures which have vanished into the deep night? Sculpture needs more consideration and more opportunities. From the point of view of our own art and perhaps sculpture itself, architecture offers the golden opportunity. But architecture, instead of using its resources to give sustenance to all kinds of pettinesses in carving, should succour sculpture, and bring it back to be the crown and glory of building. Much lies with the "Mistress Art." Let it once realise this, and it will be well for sculpture, the fairest handmaiden of the Arts.

In the monument, architecture and sculpture must slip into one another like a sword into its scabbard. It will be noticed in the monuments we have passed in review how badly, as a rule, they fit. And this is partly the cause of the many lamentable failures.

NOTES.

The Threatened Danger to St. Paul's.

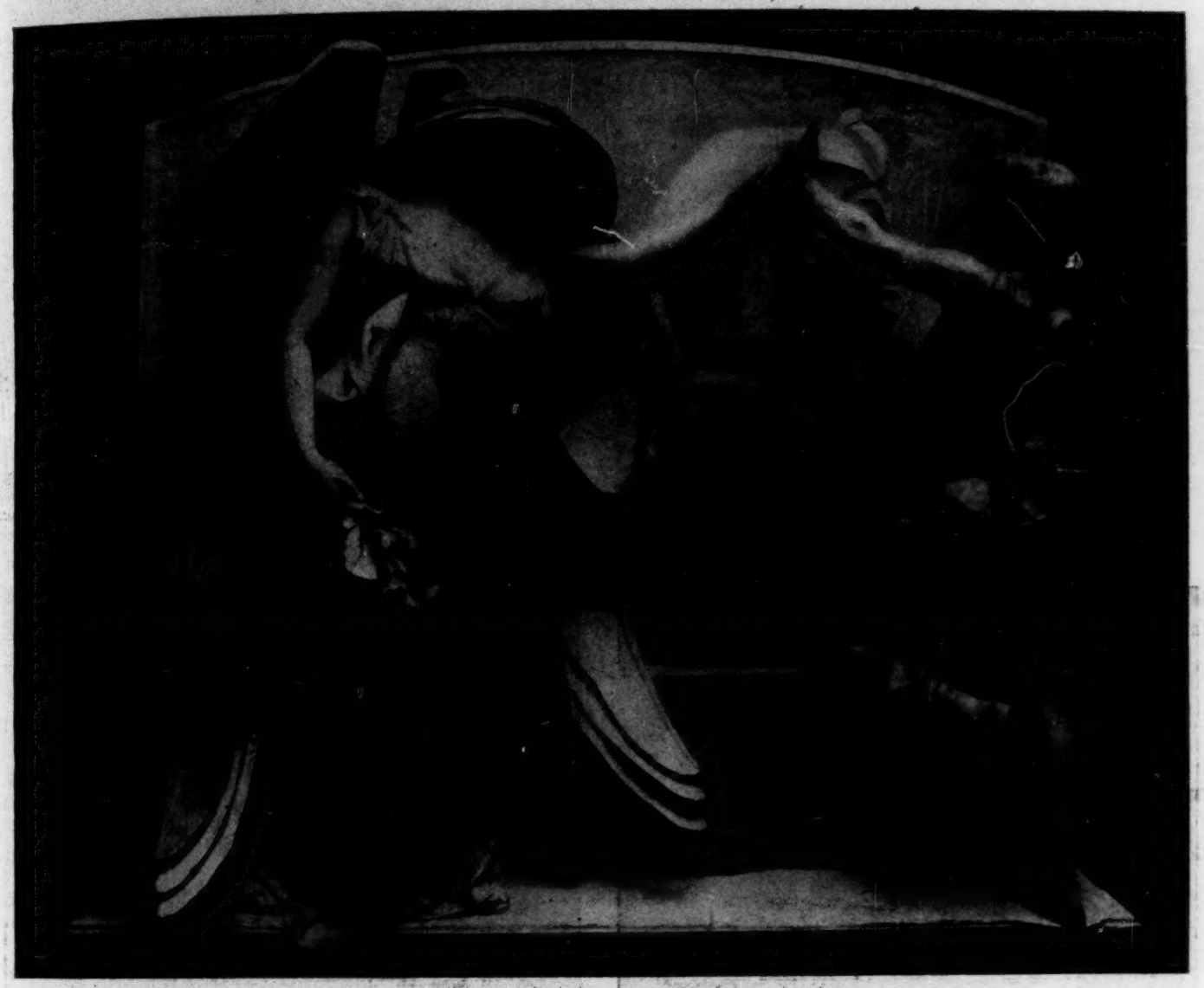
In view of the report which Sir Francis Fox has presented to the Dean and Chapter of the Cathedral, the abandonment of the London County Council proposal to construct a tram subway in the immediate vicinity of the fabric is practically assured. In face of such a report as this it would be folly to proceed, for it not only states very clearly indeed that injury to the Cathedral would almost inevitably follow any work of excavation such as that proposed, but it gives a note of warning that, unless remedial measures are quickly taken to secure the stability of the structure, serious difficulties may present themselves quite irrespective of any weakening from the outside. It is not at all reassuring to read that "in some of the buttresses of the dome actual movement is now going on," and that the eight great piers supporting the dome "have moved and have sunk from 4 in. to 6 in." If this proposal to tunnel has had the effect of concentrating attention upon the state of the Cathedral and of eliciting a report from such an authority as Sir Francis Fox, some good has come of it, but it is quite time now to stop discussing the possible danger of tram subways and to find another route for them, such as that urged in these columns from the first.

The Architect's Age Limit.

The complaint of "Stoic" in our last issue should awaken more than a passing sympathetic interest. The convention of "Too Old at Forty" hangs too often like a nightmare over the lives of workers. It comes not of any special necessity of our time, but in the logical working of the soulless machine we have allowed to grip our social economy. Its cruelty and injustice are patent; its sheer folly and waste are equally so in such cases as that specified by "Stoic" of a man who has made himself efficient, and, keeping himself abreast of his time, has attained also the added power that experience gives. It were really as reasonable and less cruel to make a rigid rule of "Too Young at Thirty" because some young men have not troubled to make and keep themselves fit at that age. Men are not held too old at forty, fifty, sixty, even at seventy, for the practice of art or profession, or for carrying on or controlling a business in which responsibility and competence are absolutely necessary. Nor can it be maintained that such are necessarily the exceptional men who deserve to succeed any more than many a middle-aged draughtsman or assistant who may have failed to start or keep a practice from some defect of personality—such as aversion to self-advertisement, lack of business push, financial staying power or connexion, or of certain peculiar qualities good for scenting work round the corner and running it to earth. There are, of course, many other cases than that mentioned by "Stoic," and even more hopeless. But whatever we may feel as to the hardship and pity of it must not prevent us from seeing that there is also very real difficulty, and that there is no one remedy that can be applied with justice to all. Principals may be often as harassed and hard-pressed as assistants. There is something to be said on both sides, for all are involved in the wheels of the machine. So that possible remedies are various. The private architect might ignore the rigid age limit—often we think with advantage to himself—and not refuse a man because he is fifty any more than he accepts one because he is thirty. The part played by the assistant and draughtsman in the profession is an essential one. Modern practice requires a reserve of assistance to draw upon at need. This is composed of men who are for the most part of similar education and training to the principals, and have, therefore, a real claim upon the consideration of their more established brethren. As its awakening corporate sense develops the profession must recognise this responsibility more clearly and devise means for eliminating so far as may be uncertainty and irregularity of work. On this account also, as well as others, it will do well to keep its gates against the entry of those who are not, in one way or another, qualified for the art of architecture. It is a matter for the most earnest consideration of the profession, both individually and collectively.

Baronetcy for a Distinguished Architect.

It is with much pleasure that we see the name of Mr. T. G. Jackson, R.A., amongst those on whom the distinction of a baronetcy has been conferred at the opening of this New Year, and we join in offering our congratulations to him. There are few architects on whom such an honour could have been more fittingly bestowed, and the profession as a whole will welcome this recognition of one of its members and the prominence it gives to the life-work of an artist constructor. To glance through a list of Sir T. G. Jackson's works helps us to realise how much he has done; how well he has done it is common knowledge. At Oxford and Cambridge, no less than at most of the important public schools, he has built largely, and as becomes a pupil of Sir Gilbert Scott some of his best designs have been for church work in various parts of England. As a writer he made his reputation years ago with his two fine volumes on the architecture of Dalmatia and Istria, which have been followed by other valuable contributions to the storehouse of architectural knowledge, while his promised volumes on Byzantine and Romanesque architecture are awaited with interest by all students. But in these days the most responsible, and in some ways the most thankless, duties that can fall to an architect are those concerned with the safeguarding of our ancient monuments, and Sir T. G. Jackson has had his share of anxiety of this kind, and but lately terminated the exceptionally hazardous work of saving Winchester Cathedral; his association there with Sir Francis Fox, whose skill was wisely brought to bear upon the problem, was an instance of the happy co-operation of architect and engineer in an undertaking of the greatest importance.



"Death arresting the Hand of the Sculptor."
Mr. D. Chester French, Sculptor.

THE DECORATIVE AND MONUMENTAL SCULPTURE OF DANIEL CHESTER FRENCH.

THE distinguished American sculptor whose name stands at the head of this article has a special interest for readers of the *Builder*, not only for his own fine record of monumental work, but also from the fact that in decorative sculpture he has been connected with that brilliant contemporary architect, Mr. Cass Gilbert, whose work was described in the *Builder* of May 26, 1911, and January 12, 1912. Born at Exeter, in New Hampshire, in 1850, Mr. French worked for a time in the studio of John Quiney Adams Ward, at Brooklyn, and has mentioned to me that he gained much while at Boston from Dr. William Rimmer's lectures on "Anatomy."

His first commission of "The Minute Man" was designed when he was but twenty-three years of age, its subject showing a figure of one of those sturdy New England farmers who resisted the British. This interesting work is still in place at Concord, Mass. Later on Mr. French visited Italy and worked at Florence in the studio of Mr. Thomas Ball, living at this time with the family of Mr. Preston Powers. The year 1879 saw his excellent portrait bust of R. W. Emerson, that bust of which the sitter said, "The trouble is that the more it resembles me the worse it looks"; though, he added later, "That is the face I shave."

A man of immense industry and devoted with his whole heart to his profession, Mr. French has produced a large output of portrait and monumental work which has as its hall-mark throughout the same high view of his art, the same purity and lofty dignity of conception. There is perhaps no busier man in that busy city of New York, yet he can always find time for a helping or kind word to the young student, as well as for his work on committees, and as Trustee for the Metropolitan Museum, in which he takes the keenest interest. Much of his larger work, however, is done in his studio at Glendale, Mass., where I visited him in the summer of 1906, and found him busy on some of the work which is described and illustrated in this appreciation.

It is of interest to observe first how effectively Mr. French has used the portrait bust in connexion with decorative sculpture in order to get an original and unconventional effect; his admirable monument of the Irish poet, John Boyle O'Reilly, at Boston, is a successful example of this treatment, and not less so is the "Richard Hunt Monument" in the Central Park, at New York. In 1888 Mr. French was modelling at Paris his statue of General Cass, of Michigan, for the Washington National Hall of Statuary, and this same year saw the creation of his "Gallaudet group," in which the famous teacher of the deaf and dumb holds a little girl beside him. It was his personal interest in this child, Alice Cogswell, whose family he knew, and who is here represented, which first led Gallaudet to devote his life to that noble aim—the helping of these deaf mutes.

Mr. French's fine relief of the Milmore Memorial, at Forest Hill Cemetery, near Boston, showing "Death arresting the Hand of the Sculptor," is so well known that there is no need to do more here than refer the reader to the illustration on this page. I may, however, call the reader's attention to the effect of shadow and mystery given by the veil enshrouding the majestic form of Death: we shall find it used with no less effect in the "Mourning Victory." This fine group was exhibited at the Columbian Exposition, where, too, was the sculptor's colossal figure of "The Republic," as well as four groups of figures combined with animals, produced in collaboration with the well-known animal sculptor, Mr. Potter. Nor was Mr. French less successful in working with Mr. Potter when together they produced that admirable equestrian figure of General Grant now in Fairmount Park at Philadelphia, a figure in its way as full of character, of latent but intense force (the repose of the attitude only accentuates this) as even St. Gaudens' inimitable "Lincoln." What a contrast is this General Grant—the real leader of men—to the average military and very self-assertive individual who crosses our path in so much of contemporary sculpture, violently waving his sword, and astride upon a no less violently agitated quadruped!

In the decorative work of the Minnesota capital at St. Paul Mr. French was associated with Mr. Cass Gilbert, who had himself commenced his career in an architect's office in that city, and of whom it may not be too much to say that it was his design (1890) for this Minnesota Capital which first brought him prominently before the public. The *Builder* has already remarked of this:—"As a whole there is probably no other State legislative building that can be compared to it in general architectural excellence, and, as it was constructed promptly and thoroughly, it brought the name of Cass Gilbert into the 'limelight.'" This grand white marble structure includes in its design a very fine dome and lantern.

It is most satisfactory to find a sculptor of the first rank devoting himself to decorative sculpture, which in its connexion with

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architecture affords the highest scope for plastic art and which in England is too frequently put into a lamentably second place, with the results which may be seen in many of our London buildings. In this connexion may be noted the decorative groups by Mr. French over the doorway of the Historical Society Building at Concord, presented to the town by Mr. Edward Tuck; a photograph reproduced on page 7 shows the general design of the upper structure. Mr. Lowell, of Boston, was the architect, and Mr. French himself wrote to me of this group in December of last year:—"It was dedicated last month. It is really a very charming building, the work of Guy Lowell. This group is cut in granite, and the photograph is taken from the finished work in granite. The figures represent respectively the 'Genius of Ancient History' and the 'Genius of Modern History.' The seal of the Historical Society is in the centre."

To the Brooklyn Institute belong the figures of "Greek Religion" and of "Epic" and "Lyric Poetry," which are included amongst the thirty statues destined to adorn the exterior of the attic story of that building. The first and last of these, namely, "Greek Religion" and "Lyric Poetry," I am glad to be able to include here among the illustrations. "Epic Poetry" is here appropriately represented by a male bearded figure, which I take to be that of Homer; and the women, especially "Greek Religion," whose helmet, shield, and Gorgon-headed breast-plate suggest a Minerva, are of that refined beauty of type which this artist has evolved from his own sentiment.

Obviously, however, the most important work in which Mr. French has been associated with Mr. Cass Gilbert, consists of his fine groups for the New York Customs House—a work for which twenty of the leading architects of America competed, and the design of which put the seal on Mr. Gilbert's earlier successes at Minnesota and elsewhere. It is not within my province here to describe this fine building, which was in course of completion when I was last in New York; it has, in fact, been already adequately dealt with in the *Builder* of January 12, 1912, but I will now give some account of the four groups which Mr. French designed to adorn its entrance, and on which he was engaged when I visited him at that time in his country home at Glendale, Mass.

These four groups, of which I am able to give a set of excellent reproductions on one of the Plates in this issue, represent the four Continents of our world; America, a seated female figure, has behind her an Indian, while the queenly figure of Europe is accompanied by the shrouded form of History, and wears over her bosom a breast-plate; her robe is broidered with the arms of the historic nations, and her left hand rests upon an open book. Africa has been imagined here as a sleeping woman of Nubian type, the upper part of whose figure is undraped; it is so rarely that Mr. French treats the nude that it is interesting to note that here he handles it with absolute mastery.

Asia is to me the least interesting group, though I know that others think differently. Her attitude suggests that of the typical image of Buddha, whose figure rests on her

Lyric Poetry.

Greek Religion.

Figures on the Brooklyn Institute of Arts and Sciences.

Mr. D. Chester French, Sculptor.

lap. From below this falls a scroll on which is depicted the Buddhist Wheel of Life. The tiger crouching at her right side is balanced on the other side by three figures, who seem typical of slavery or superstition, but behind her we see the Cross. Some friend and critic, the artist told me, had objected here to the introduction of the Cross, and had to be reminded of the obvious fact that Christianity came from Asia.

In this notice I have intentionally given special prominence to Mr. Daniel Chester French's work either of a decorative character or directly connected, like these last groups, with architecture; but it would be impossible for me to conclude without some mention of his no less fine memorials and monumental work, some examples of which are included among the illustrations.

The Melvin memorial, a mourning "Victory," erected (1910) in Sleepy Hollow Cemetery, is a figure of the highest ideal beauty—a worthy successor to his great creation of "Death and the Sculptor"; it was erected to three victims of the Civil War, and shows a half-draped female figure, those left hand raises the veil while her right holds the laurel. The "General Oglethorpe," erected in the same year as a tribute to the memory of one of the old Colonial Governors of Georgia, is a commanding figure, admirably modelled; and what can be more charming than the "Alice Freeman Palmer Memorial," where the adolescent figure of the young girl is directed towards the path of study by an elder woman, the "Alma Mater" of her college? It is perhaps in his monuments to Death that this sculptor, with his serious outlook on the great problems of life and its destiny, rises to the highest level of his genius.

A few remarks are necessary on the most recent work of this sculptor, and I have been able to secure some excellent illustrations. First among these, in importance both of subject and treatment, is his statue of "Lincoln," which was unveiled with appropriate ceremony in the city of Lincoln, Nebraska, in September of 1912.

The monument (Mr. French tells me) consists of the statue of Lincoln on a low pedestal, standing against a background of polished granite, upon which the Gettysburg speech is cut in incised letters. The granite is dark, to harmonise with the bronze, and of a greenish hue; and he adds—a great

"Lincoln." Statue at Lincoln, Nebraska, U.S.A.
Mr. D. Chester French, Sculptor.

admission from his severe judgment—"My friends think this the best thing I have done, and I do not think badly of it myself."

As we have mentioned above, Mr. French had already modelled, in collaboration with Mr. Potter, the equestrian figure of General Grant for Philadelphia, while St. Gaudens had won deserved success with his figure of Lincoln. It might be invidious to compare the treatment of these two great contemporary sculptors, one of whom has but recently been lost to America and the world, but perhaps even Mr. French, with his long record to the good, has never excelled the tense energy and controlled force of this figure, with clasped hands and head bowed in thought.

The monument to Francis Parkman, erected at Jamaica Plain, near Boston, shows a typical Redskin, with head and breast bared, emergent from the stone. The Clarke Monument, in Forest Hill Cemetery at Boston, is a companion there to the fine group of "Death and the Sculptor," which I visited six years ago. In this later work the kneeling child angels, winged, and with hands clasped in prayer, are exquisite in sentiment, and recall to us some of those exquisite child angels in terra-cotta or marble, in the Tuscan work of the XVth century. The architects of this monument were Messrs. Andrews & Jaques.

The Kinsley Memorial, in Woodlawn Cemetery, at New York, of which Mr. Henry Bacon was the architect, consists of a draped and winged figure of a young girl, looking up, as if expectantly, from the tomb or sarcophagus on which she is seated. Lovely though this figure is, both in type and details of the modelling (note the left arm and hand and treatment of the drapery), it is to my mind less typical of the sculptor than his figure of "Memory," also seated and draped, but in drapery of heavier texture, making broader folds, in the Monument to Moorhall Field in Graceland Cemetery, Chicago.

In choosing such texture for the drapery the sculptor necessarily sacrifices to some extent the under-form—a treatment which I cannot entirely approve. But what magnificent breadth in these great folds, which fall across the thighs and knees, to meet under the withdrawn right foot; and what almost virile force in the face, finely cut, slightly bent forward, and resting on the strong left arm!

Mr. Henry Bacon is here also the architect, and on either side of the throned seat the artist has set male figures representing "Integrity" and "Equity." Mr. French is a fine sculptor of the female form, but in

"The Genius of Ancient and Modern History." Group on the Building of the New Hampshire Historical Society, Concord.
Mr. D. Chester French, Sculptor.

treating it he instinctively prefers to elegance, grace, or charm qualities which indeed are less "directly" of the subject—namely, simplicity, dignity, strength of purpose, and strength of line. In the Kinsley Memorial he gets for the moment away from this sentiment; in the "Memory" of Graceland Cemetery he returns to it entirely; in other figures, such as the "Mourning Victory," he rises to a height of heroic dignity in which the figure, whether nude or draped, is entirely a vehicle for his own lofty sentiment.

Lastly, I would mention the great central bronze doors of Boston Free Public Library, in which the architects are the well-known firm of Messrs. McKim, Mead, & White. Two draped figures, male and female, of "Knowledge" and "Wisdom" move in a sort of solemn rhythm; beneath Wisdom, with her veiled chalice and rod serpent-twined, are graven the words—

THERE . IS . IN . WISDOM . A . SPIRIT . SUBTIL CLEAR . IN . UTTERANCE . LOVING . WHAT IS . GOOD . PURE . STEADFAST.

"A spirit subtil, clear in utterance, loving what is good"—what words could better convey the indwelling genius of this sculptor's monumental art? SELWYN BRINTON.

ARCHITECTURAL SOCIETIES.

Nottingham Architectural Society.

At the second meeting of the winter session, held December 18, two new Associates were elected. The President, Mr. E. R. Sutton, F.R.I.B.A., announced that the Royal Institute had requested them to consider whether any rearrangement of the area covered by the Nottingham Society would be beneficial, and in accordance therewith the Council had communicated with the neighbouring societies. As, however, the attendance that evening was not a very large one he proposed to defer the consideration of the matter to a special meeting to be held early next year.

It was also announced that a Jubilee Fund had been opened to put the Society on a sound financial basis, and several members had promised donations.

Other business having been disposed of, Mr. Thomas Wright, the President of the Nottingham Camera Club and a Fellow of the Royal Photographic Society, gave a lecture on "Pictorial Architecture and Miscellaneous Subjects."

Mr. Wright pointed out how grouping and suitable setting enhanced the pictorial effect of a building and how light and shadow added to its artistic value, and illustrated his remarks by means of a large number of very beautiful lantern-slides prepared by himself.

The Vice-President, Mr. Harry Gill, in proposing a vote of thanks, complimented the lecturer on the excellence of his slides, and remarked that it had been one of the most interesting and instructive meetings of the Society. Mr. A. E. Heazell seconded the resolution.

GENERAL NEWS.

Professional Announcements.

Mr. Chatfeild Clarke, F.R.I.B.A., F.S.I., has taken into partnership, as from January 1, Mr. J. M. Ross, Mr. Cyril Chatfeild Clarke, and Mr. Edwin Romlosy, the style of the firm remaining as heretofore, viz., T. Chatfeild Clarke & Son.

Mr. Herbert Haines, A.R.I.B.A., has opened offices at No. 117, Midland-road, Bedford.

Mr. William Flockhart, F.R.I.B.A., of No. 10, Conduit-street, who has had to undergo an operation, is progressing favourably, but will be unable to attend to business for some time. During his absence his business will be attended to by Mr. L. Rome Guthrie, A.R.I.B.A., of the same address.

Messrs. Warwick & Hall, 13, South-square, Gray's Inn, W.C., announce that they have terminated the partnership which has hitherto existed between them. The work in progress at the present time under their direction will be carried through in partnership until completion, and they will remain at the same address.

We are informed that the partnership of Messrs. Churchill & Sim, 29, Clement's-lane, London, E.C., having expired by effluxion of time on the 31st ult., Mr. Alexander B. Sim and Mr. Frederick E. E. Elliott, who have been for some time sleeping partners, finally retire from the firm as from that date, and the senior, Mr. Charles T. F. Churchill, also retires. The business will be carried on by the remaining partners—Mr. C. S. Gordon Clark, Mr. Thomas G. Sharp, Mr. A. Chatterton Sim, and Mr. Herbert G. Sharp—and the firm are admitting into partnership in their Softwood Department Mr. William C. Mann, who has for many years been one of the managers of their Swedish business, and in the Mahogany and Hardwood Department Mr. Walter J. Sharp, who represents them in Liverpool.

New Year's Honours.

In the list of honours published on January 1 were to be found the names of Mr. T. G. Jackson, R.A., to whose Baronetcy reference is made on p. 4; Mr. Herbert Henry Bartlett, partner in the firm of Messrs. Perry & Co., contractors, who also receives a Baronetcy (p. 19); and Arthur Lasenby Liberty, a new Knight, whose efforts in the cause of decorative art have been so successful.

Winchester Cathedral Extension.

The King has conferred the Royal Victorian Silver Medal upon Mr. William R. Walker, the diver who, as we recently mentioned, rendered such excellent service in the reinstatement of the foundations of the Cathedral, under Sir Thomas G. Jackson, R.A., and Sir Francis Fox, C.E.

The New Delhi.

In the House of Commons on Monday Mr. King asked the Under-Secretary of State for India whether his attention had been called to proposals for securing the sanitation and amenities of the new Delhi by damming the River Jumna made by Sir Bradford Leslie; and whether they would be brought before the new Delhi Town-Planning Committee for their consideration and assistance.—Mr. Acland said no doubt the honourable member was referring to the paper read by Sir Bradford Leslie before the Royal Society of Arts, a copy of which had been sent to the Government of India.—Captain Murray asked whether it was proposed to publish the report of the Committee appointed to advise on the site and planning of the new Delhi.—Mr. Acland replied that a copy of the report would be placed in the Library, but it must be understood that until the Committee made their final recommendations the report did not bind in any way either the Government of India or the Committee.—Mr. King further asked whether it was intended to set aside a site in the new Delhi for a cathedral; if so, whether the site had already been decided upon; and whether the building to be erected would be entirely raised by voluntary donations.—Mr. Acland answered that the sites for buildings at Delhi had not yet been allocated. It might be assumed that a site would be set aside for a church. The question whether it would be a cathedral church and the funds out of which it would be built had not, so far as the Secretary of State was aware, yet arisen.

King Edward Memorial.

In the House of Commons Captain Murray asked the representative of the First Commissioner of Works whether, in connexion with the site for the King Edward Memorial, he would consider the suggestion that the Duke of York's Column should be demolished and the memorial erected near the steps overlooking St. James's Park.—Mr. Benn replied that the First Commissioner did not see his way to consider the suggestion.

Building in Regent's Park.

In the House of Commons on Monday Mr. F. Cassel, K.C., asked the President of the Board of Agriculture whether the whole of the buildings in course of erection in Regent's Park for Bedford College appeared in the plans originally submitted to the Crown Estates' Surveyor for approval, or whether any had been added and approved subsequently, and, if so, when.—Mr. Runciman replied that the whole of the buildings in course of erection in Regent's Park for Bedford College were indicated on the plans originally submitted, though the detailed drawings did not include details of the kitchen and dining-hall and common-room block. The detailed drawings for this latter block were approved on August 1, 1912. A small clock turret on the administration block not originally shown was sanctioned on February 13. Answering Sir H. Craik, Mr. Runciman denied that the buildings interfered with the amenities of the Park.

Exhibition of Work by Charles Conder.

An exhibition has been arranged at the Leicester Galleries, Leicester Square, dealing with the art of Charles Conder. The exhibition is on an important scale, and comprises fans, paintings, water-colours on silk, drawings and lithographs. The opening day will be January 4.

Building Exhibition, Olympia.

As most of our readers are aware, this exhibition will be held from April 12 to 26 next. We are informed by the promoters that practically all space is taken up with the exception of one or two positions.

CORRESPONDENCE.

"A Thoroughly Up-to-Date Society."

SIR,—With reference to Mr. Seth-Smith's letter in your issue of December 20, I am glad to be able not only to confirm his statement as to the lines originally laid down by the Society of Architects in regard to Registration, and continued during his membership and Presidency of the Society, but also to assure him that since his much-regretted severance from the Society on other grounds no change has taken place in that policy. The Society are still of opinion that the R.I.B.A. is the proper body to promote a Registration Bill in Parliament, and the Society's draft Registration Bill still contains a clause to the effect that the examinations under the Act shall be held by the R.I.B.A. The Society still deprecate the multiplication of avenues into the profession, and personally I fail to see that this principle has been abrogated by the Society establishing an examination test as a qualification for membership.

These, however, are minor points compared with Mr. Seth-Smith's unintentional misstatement that the Society now proposes to trespass on the teaching functions of the R.I.B.A., the A.A., and the London University. He writes, necessarily, without a knowledge of the events which led to the establishment of a Committee for instituting in England a similar form of architectural training to that which exists at the Ecole des Beaux-Arts in Paris. The facts are briefly as follows:—Some time ago several prominent members of the R.I.B.A. Council approached a member of the Society and suggested that the Society, having the necessary means at their disposal, should actively take the matter up.

My Council, on being approached, at once expressed themselves in favour of the principle, and appointed a Committee to inquire fully into the matter and report thereon. After a number of meetings, and having investigated the whole matter by exhaustive personal inquiries in Paris and elsewhere, the Committee saw their way to carry the proposal into effect, but came to the conclusion that, in the best interests of the profession, the matter should be left in the hands of an absolutely independent Committee not connected with any British architectural body. The Council of the Society met their representations on this point with unanimous approval, and the Committee thereupon formally constituted themselves into an absolutely independent Committee for the promotion of the object they had in view.

The names of the patrons and other gentlemen constituting the Committee, taken in conjunction with this statement as to the part taken by the Society, will, I venture to think, be a sufficient answer to those who have expressed any doubt as to the scheme receiving the support of the profession as a body or as to the motives of the Council of the Society in lending their aid to the proposals of its promoters. C. MCARTHUR BUTLER

(Secretary of the Society of Architects).

SIR,—Although I hold no brief from the Society of Architects in respect to Mr. W. H. Seth-Smith's letter under the above title in your issue of December 20, it appears to me that the extraordinary and futile views expressed therein should not pass unchallenged. It may be that Mr. Seth-Smith shares, in common with nearly all members of the R.I.B.A., the regret expressed in your leading article of November 29, but such regret cannot be "on the policy of the Society of Architects as officially enunciated in the President's sessional address," for the simple reason that the President's address is a statement of his own personal opinion and is not official. Such regret as regards the development of the Society,

and which is common to "nearly all members of the R.I.B.A.," is distinctly due to the action and inaction of the R.I.B.A. and not to the activity of the Society, as the latter activity is directly due to the former inaction, and it is simply absurd for Mr. Seth-Smith (in view of recent circumstances) to say in the closing paragraph of his letter that "the Society would seem to have plenty of good work before it in forming professional opinion on, and criticising or assisting the R.I.B.A. in, the great and difficult project which it has undertaken." It is obvious to all (except perhaps Mr. Seth-Smith) that even this "good work" can only be carried on by the Society of Architects if the Society is strong enough to assert itself by representing, so far as is possible, and more effectively if possible, exactly similar interests to the R.I.B.A. The R.I.B.A. has never shown itself willing to admit the Society to have a voice in its councils; in fact by the provisions of its charter it cannot do so. Is it likely that the Society by voluntarily weakening itself as a representative professional body would be more able "to assist the R.I.B.A. in the great and difficult project which it has undertaken"? Is it possible that under such circumstances the R.I.B.A. would be more likely to acknowledge the claims of the Society in "criticising or assisting"?

Mr. Seth-Smith states the main objects of the Society's creation, but ignores the natural development which has taken place to realise these objects, and the fact that the Society is now responsible for the professional interests of over a thousand members, many of whom have qualified by the examination he deplores. The Society as a professional body stands in the same relationship to its members as the R.I.B.A. does to its Fellows, Associates, and Licentiates, and it would be equally logical and just for me to suggest a cessation of the development of the R.I.B.A. as it is for Mr. Seth-Smith to suggest a similar course for the Society of Architects.

The position and policy of the Society of Architects are perfectly clear and definite, and the recent amalgamation proposals with the R.I.B.A. have put it on record that the Society was willing to give up its independence and individuality in the interests of the policy it has consistently upheld, the terms of absorption being such that the high representative and professional standing of the Society were fully acknowledged and also put on record.

Mr. Seth-Smith's position is difficult to understand. He surely does not imagine that (especially after these futile absorption proposals) the Society would stay its development, prejudice its position and that of its members, and neglect the best interests of architecture by abstaining from establishing ateliers which it wished to establish because some other institution might wish to do so some day.

Mr. Seth-Smith has no doubt "the best interests of architecture" at heart, but is it not possible that his real regret, "in common with nearly all members of the R.I.B.A.," is that (whether desirable or not) some other body than the Society had not had the initiative to establish these ateliers?

"A watching brief" for the fulfilment of the Registration ideal is suggested by Mr. Seth-Smith as being all-sufficient for the Society. Can Mr. Seth-Smith tell me who would brief the Society of Architects or any purely watching society with a sufficient retainer and refreshers to assure the safeguarding of the interests and the ultimate realisation of this ideal?

H. GUICHARDE TODD.

The Beaux-Arts Committee for Architectural Training in Great Britain.

SIR,—Having now formulated their views and course of procedure, the Beaux-Arts Committee, to promote improved methods of architectural training in Britain, desire me to forward you the following explanatory *précis*:—

The Committee and jury for adjudication include the following:—

Honorary Members.

M. J. L. Pascal, Membre de l'Institut de France; M. V. Laloux, Membre de l'Institut de France.

Committee of Management.

The Right Hon. Lord Saye and Sele; Sir George Riddell, Chairman; *M. Alph. Defrasse, President of the Société des Architectes Diplômés; *M. J. Godefroy, Vice-President of the Société des Architectes Diplômés; *M. Faure Dujarric, Logiste et Diplômé; *Mr. Arthur Davis, Medaillé, Ecole des Beaux-Arts; Mr. A. R. Jemmett, F.R.I.B.A.; *Mr. H. V. Lanchester, F.R.I.B.A.; *Mr. Edwin L. Lutyens, F.R.I.B.A.; *M. Chas. Mewès, Logiste et Diplômé; Mr. E. C. P. Monson, F.R.I.B.A.; *M. A. Templier, Diplômé; Mr. Percy B. Tubbs, F.R.I.B.A.; Mr. R. Goulburn Lovell, A.R.I.B.A. (Hon. Secretary). The names marked with an asterisk are members of the jury.

It is intended to establish in the British Isles ateliers of architecture similar to those connected with the Ecole des Beaux-Arts. The French Société des Architectes Diplômés par le Gouvernement have given their patronage, while prominent patrons and students of the French ateliers, together with certain British architects, are actively co-operating in carrying this proposal into effect.

The object of the ateliers is to teach the principles of design which aim at the development of logical and imaginative architecture on the system of the Ecole des Beaux-Arts. As the atelier devotes itself solely to the study of architectural composition, such other knowledge as is necessary to the practising architect must be acquired by the student from the sources already existing for the purpose. It is therefore not intended to supplant existing educational establishments, but rather to supplement them.

It is generally admitted that the first and greatest school of architecture in the world is that of the Ecole des Beaux-Arts, Paris. Its pre-eminence may be recognised by the fact that nearly all international competitions are won by architects trained in this School, that its teaching is sought by students of all nationalities, and that its principles and methods have been adopted with the best results in America, where there are at present fifty-seven "diplômé" architects.

The Ecole des Beaux-Arts is largely dependent on the ateliers, in which the actual teaching of design is carried on, and in which the students learn the principles that underlie planning and composition and acquire facility and experience in their application. It is intended, therefore, to adopt this feature of the Ecole, as its general methods and atmosphere have been proved to possess distinct advantages over other methods of teaching. It develops a spirit of comradeship and co-operation and a general community of sentiment and ideals. This arises from the fact that the designs based on each student's first sketch are developed on certain definite principles in the atelier with the co-operation of the patrons and atelier comrades. The atelier as a whole takes a pride in each student's work, and for its own credit's sake assists him to lift it to the highest possible level.

It is intended that the traditions and methods of the ateliers in Paris shall be adhered to, so far as it is possible to combine them with English practice, but the ateliers, however, will make no attempt to insist on the imitation of French features and detail or to influence the student in this direction, being concerned more with the principles which govern these features than with the actual features themselves. As, however, it is recognised that only those who have been trained on the Beaux-Arts system for a sufficient length of time to grasp its principles and assimilate its atmosphere are competent to impart it, the direction will be in the hands of Beaux-Arts men.

Since the decay of the old traditions which were followed by such men as Adam and Chambers, and which finally broke up at the time of the Gothic revival, architecture in England has been passing through a period of chaos, indicated by a continued change of fashions, having no intellectual basis, during which period its fundamental principles have been generally lost sight of. While a few men of ability have from time to time been able—by sheer force of individual personality—to grasp its essentials, the majority have failed to do so, and the students have been left without any definite guidance in those principles which govern the art of architectural design.

Although much progress has been made in building up schools to replace the pupilage system, it is generally recognised that, however excellent they may be in other respects, they fail in the logical and systematic teaching of those principles of design which are essential, if a community of ideas and generally accepted standard of criticism, so necessary to a vital school of architecture, is to be maintained.

Such logical system of teaching and standard of criticism exists at the Ecole des Beaux-Arts, where the principles and theory of architecture have been preserved by unbroken tradition since the time of Louis XIV. It is believed that the establishment of the definite architectural principles with which the Beaux-Arts atelier system is intimately connected is the first necessary step in this country towards placing architecture on a sound theoretical basis.

On this basis may be built up a general community of ideas, and a generally accepted standard of criticism to take the place of the present confusion of aims. It would also appear to be the foundation on which any general co-ordinated system of the teaching of design, and any national school of architecture must ultimately rest.

It may be mentioned that applications have already been received for admission to the first atelier, which will probably be opened early in February. Other students desiring information should apply to me at once, and any requests I may receive for admission will be laid before the Beaux-Arts Committee.

It should be explained that preference will be given to those whose previous work indicates that they are best qualified to profit by the form of instruction to be given.

It is hoped that it will be practicable to issue a prospectus giving full details in the course of a week or ten days.

R. GOULBURN LOVELL
(Hon. Secretary, Beaux-Arts Committee).

[*** While we are pleased to publish this interesting communication, we find ourselves able to extend our sympathies to the cause only with considerable reserve. We are quite aware of the merits of the French system of education as practised in France, but, as we have repeatedly remarked, it does not lend itself to wholesale transportation, and if anything on the lines proposed is to be done in this country we should prefer the Royal Institute of British Architects—who have had this matter under consideration—to formulate the scheme and give to it that authority without which it is hardly likely to achieve much.—ED.]

St. Paul's Cathedral and Proposed St. Paul's Bridge.

SIR,—As is well known, St. Paul's Cathedral is built on a clay soil, which accounts for the south side "moving outwards." This is the same cause in the west front. St. Paul's stands on Ludgate-hill, with a considerable fall on the west to Ludgate Circus, where, in the olden days, the Fleet River entered the Thames. The southern elevation faces the River Thames, where there is also a considerable fall. Clay is the most dangerous soil to build upon, as it is in layers, and, water getting between these layers, a landslip is liable to take place at any moment. The proposed St. Paul's Bridge should face the south of the Cathedral, with a grand avenue curving to the west front, and entering the enlarged square surrounding the Cathedral, the blocks of buildings on the north and south sides to be removed. The construction of the grand avenue skirting the hill upon which the Cathedral stands would strengthen the foundations of St. Paul's and prevent a landslip taking place both on the south and the west. There is no danger on the north and the east. The proposed tramway tunnel to run under the grand avenue some considerable distance away from the foundations, and, as I said before, the tunnel running from south to west, thus forming a strong protection to the foundations of the Cathedral and preventing a landslip taking place. The present scheme is the bridge and new avenue to be built in a straight line up the steepest part of the hill, to the back (east) of the Cathedral. The foundations of tram tunnel would be close to the east elevation of St. Paul's. The above first-suggested scheme would be a grand opportunity of improving the metropolis of the Empire, and at the same time erecting a fit national memorial to King Edward VII. (the Peacemaker), the grand avenue being named King Edward VII. Avenue. An equestrienne statue in the enlarged St. Paul's Square, in front of the Cathedral, facing the west; the Avenue and square to be planted with trees as well as statuary, etc. We have already a statue of Queen Anne in front of the Cathedral. It is the safest plan, after all, not to endanger the foundations of the Cathedral by tunnelling, etc. The enormous weight of the lead and timber dome of St. Paul's has a good deal to do with the damage to the west and south elevations.

HENRY H. B. LANG
(Architecte-Decorateur, Paris).

ILLUSTRATIONS.

St. Martin's-le-Grand.

FOR some months demolition work has been in progress on the old Post Office Building in the City, and the possibility of preserving Sir Robert Smirke's fine portico has been entertained. Soon, however, the building will be razed to the ground, and the future of the site and its environment will be settled. It is felt generally that some effort should be made to deal in a comprehensive way with the problem, and on p. 14 we publish an article on the subject. In connexion with it is Mr. Adrian Berrington's drawing, reproduced as one of our Plates.

A Corner of the Pantheon, Rome.

MR. WALCOT'S water-colours are well known and appreciated, but his etchings are not so familiar to architects. The example of his work with the needle, which is included among our Plates, will be studied with interest. In the background is a corner of the building which has stood for so many centuries as a reminder of the constructional gifts of the Romans, and about its base are figures typical of the modern population of the Eternal City. Mr. Walcot's power of suggestion is considerable, and in the deeply-bitten Plate of the Pantheon he has used his gifts to good purpose. He has brought out the fact that a great work of architecture lives for ever, and it takes its place naturally in the lives of successive generations.

The Mosque of Sultan Suleiman at Constantinople. Erected 1550-56.

THIS magnificent structure is the most noble mosque built by the Osmanli in Stamboul. Sinan, the architect, had previously erected several fine mosques in the city, thus, when called upon, his experience enabled him to escape most of the clumsy expedients adopted in some of his earlier designs.

There can be no doubt that Sinan was a great admirer of Santa Sophia, and based his design on that superb structure; his work shows the mind of an engineer, as waste of material cannot be seen anywhere, almost reminiscent of the finest Gothic work. The grouping of the parts viewed from any standpoint is always fine. Fergusson says, "Every dome, every projection is so truthful and tells so exactly the purpose for which it was placed where we find it, that the general result is most satisfactory"; but the internal design suffers somewhat from the fact that circular and pointed arches are both used, as also a debased form of stalactite vaulting for some of the smaller pendentives.

Externally, the small domes and the larger semi-domes piling above one another lead the eye to the great central cupola, which is just of sufficient height to be in perfect harmony with the design below; then the four graceful minarets rise to sufficient height to assert their importance and yet not dwarf the mosque. These are required by the Muazims to call the faithful to prayer five times a day. No doubt in the old days all the balconies were used at the same time.

The accompanying plan, from Grelot's "Relation Nouvelle d'un Voyage de Constantinople, MDCLXXX.," is probably one of the earliest made, and, although not very accurate, is interesting and useful in showing the general disposition of the various parts appertaining to a great mosque.

It will be noticed that most of the circular columns are hatched at base level, and thus appear square. The enclosure between the columns to the court was probably temporary and has since been removed, and the eastern wall should be shown considerably further in.

Description of the Plan.

A. The central dome.
B. The Mihrab or Niche.
C. The Mimbar or Friday pulpit.
D. The four great piers which support the dome.
E. Four large monolithic granite columns, 35 ft. high, including caps and bases. The columns are said to have come from St. Euphemia, at Calcedon; they formerly adorned the Thermæ at Ephesus, and were quarried in Egypt.
F. Fountains beneath the exterior galleries.
G. Exterior galleries (of two stories) used for watching the entry of the Sultan to the mosque.
g. The door by which the Grand Seigneur enters.
H. Piers which support the two little semi-domes and the large semi-dome. Between these piers are low tribunes, with marble columns.
I. The main entrance from the cloister.
K. The north and south entrances.
L. Six small domes.
l. Four smaller domes.
M. The four minarets.
m. Six staircases leading to the galleries and higher parts of the building.
N. The two side entrances to the court.
O. The main entrance.
P. The fountain in the court.
Q. The pavement of the court is of marble, as is also that of the mosque.
R. Twenty-eight little domes over the cloister, and twenty-four marble columns, each of one piece.
S. Seven gates to the outer enclosure.
T. The mosque is built on one of the hills of Constantinople, and from the north requires flights of steps to ascend to the platform. This terrace is protected by a parapet.
U. Chambers to be used by the Musaulmans before they enter the mosque.
V. The same, but for the officers of the mosque.
X. The large enclosure, with nine gates.
Y. Plan of the mausoleum of Suleiman (died 1566).
Z. The tomb of Roxalana, his wife.

I made several drawings of the mosque, but found it always impossible to obtain a good view (for drawing purposes) of the general superstructure until I climbed the minaret of the Mosque of Rustem Pasha, as shown in front of the Suleimaneh in the accompanying photograph, where the principal materials for this painting were obtained.

The main structure is 225 ft. by 205 ft. externally. The great dome is 86 ft. wide internally and 156 ft. high. It has thirty-two dormer windows with circular heads, and a flying buttress springs from between each alternate one. The dome does not appear to rest on a flat table as at Santa Sophia, but the external forms of the pendentives are shown upon which it rests. These latter impinge upon four great arches carried by massive piers which penetrate to the exterior and rise to the springing of the dome, and are capped by pointed corrugated cupolas. The east and west arches are massively buttressed, and show on the exterior by a series of steps which are roofed or domed. The north and south arches are walled up, as are now those of Santa Sophia, and are pierced by windows, but those of the east and west are open with large semi-domes placed against them. These, in turn, are pierced by smaller semi-domes, and carry the thrust down to large external buttresses on the external wall.

The four angles of the aisles are domed. Three domes, one large and two small, are placed over the central side aisles and are cleverly arranged in the interior.

The main cornice binds the design together, and with its balustrade gives a graceful finish to the walling, which is treated generally in three heights. The central portion north and south includes a graceful portico of two stories. Large pointed arches enclose the upper windows, and on either hand marble porticoes, surmounted by three small domes, give access to the floor level of the mosque. The floor is raised considerably above the general ground level, the entrances being reached by flights of steps. The materials used are lead for the roofing, brick for the domes, and coarse local stone for the external walling, which had at one time been whitewashed. The inside is plastered and painted, besides which a considerable surface of the eastern wall is covered with fine faience.

Most of the beautiful jewelled glass and plaster internal windows have been destroyed, but a few still remain at the eastern end.

[*Photo. by Newspaper Illustrations, Ltd.*

View of the Mosque of Sultan Suleiman from the Golden Horn, Constantinople.

The wide expanse of the interior is grand, especially as viewed towards the west, as this end wall is more broken up than the eastern. There is a feeling of lack of repose, want of thickness in some parts, and not sufficient repetition to give perfect rhythm.

ARTHUR E. HENDERSON.

[A drawing by Mr. Henderson of the interior from the central northern aisle, looking towards the central entrance, is illustrated in the *Builder*, July 24, 1909.]

Santa Sophia, Constantinople.

THE left-hand view shows the graceful group of verd-antique columns screening the central division of the northern aisle. Between these can be seen the sanctuary, south-east exhedra, the two lower columns of which are of porphyry and stand upon dies of Proconnesian (Marmora) marble. Rising above is the great eastern arch and semi-dome supporting the gallery and the central dome, but the great south-eastern pendentive and pier are hidden by the nearest verd-antique column.

The fittings shown are the Sultan's Tribune, the Mihrab or Niche, the Mimbar or Pulpit, up which every Friday the officiating priest ascends with drawn sword to offer prayers for the reigning Caliph and preservation of the Empire. (The sword is only carried when a church has been converted into a mosque.) The large circular device has painted upon it the Holy word, "God," the corresponding one over the Sultan's Tribune has "Mohammed."

The right-hand picture shows the southern aisle and arcades beneath the great southern arch. In the foreground is shown one of the two large Proconnesian marble fountains presented to the mosque by Sultan Murad III., 1574-95. Here the faithful can wash his head all over, his arms above his elbows, and his feet above his ankles before joining in worship.

To the right is shown one of the eight monolithic square Proconnesian marble columns used in the aisles. The floor is carpeted in winter, the pattern is designed as small prayer-rugs, giving the exact position for each worshipper to occupy. As, however, Mecca is considerably to the south of the orientation of the building, the carpets run somewhat diagonally across the wide expanse, giving an erroneous perspective. ARTHUR E. HENDERSON.

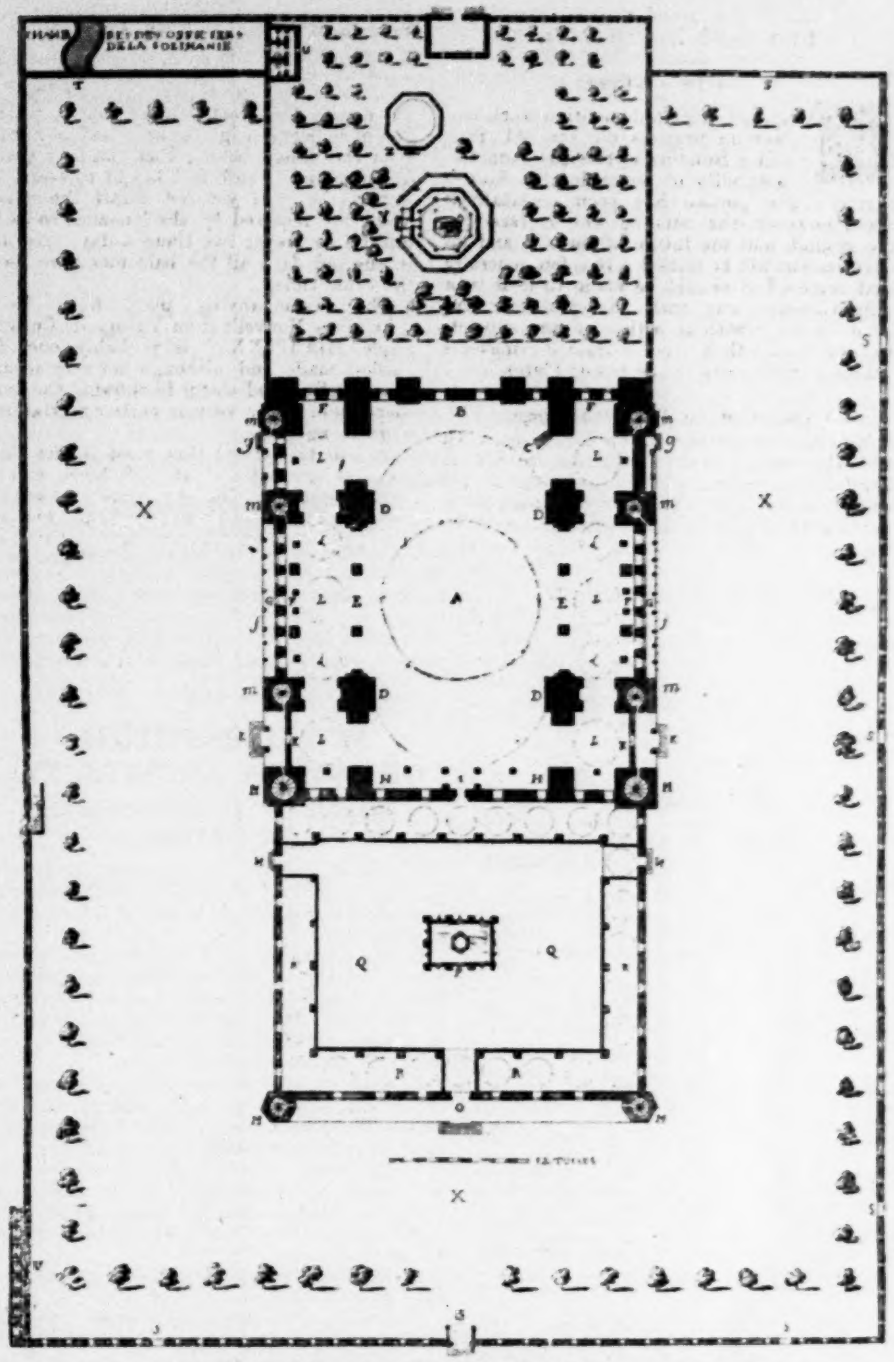
[Further drawings by Mr. A. E. Henderson have appeared in the *Builder*, January 6, 1900, where the building is fully described, and in July 12, 1902.]

Statue of Captain Coram.

WHAT ships were handled by Thomas Coram and what particular skill was shown by this XVIIIth-century master mariner is of little concern to the Londoner of to-day, but, as the founder of the Foundling Hospital, Coram has a claim to distinction. With the good work of the Institution itself we cannot deal here, but the building in Guilford-street has been the subject of much interest of late in connexion with the proposal to adapt it to the purposes of the London University, and we have had occasion to speak of the necessity for caution in removing or altering one of the principal landmarks of the metropolis. The building has a character of its own, and so has the Caen stone statue to the founder, the work of W. Calder Marshall, R.A. We have wondered when watching the boys and girls at play in the large forecourt whether the removal of the children to the country would not be advantageous. There are arguments for and against this course. But if in future any new arrangements are desirable the Coram statue, to which attention is drawn in the article on "London Monuments" in this issue and which the sketch of Mr. Penderel-Brodhurst represents, should be carefully safeguarded.

The Monument, E.C.

A SUGGESTION was made in the House of Commons a few days ago that the Duke of York's Column should be made to pay its way by being made accessible to sightseers, and allusion was made to the Monument, which was said to bring to the Corporation a profit of 300*l.* a year. It is, indeed, a popular ambition of the excursionist to seek the apex of the great column in the City which records the great event of 1666, but how many know or care that the art of Sir Christopher Wren was brought to bear on its design and construction? The facts are mentioned in the article on "London Monuments" in this issue, and Mr. W. Godfrey Allen's drawing supplements the reference.



Plan of the Mosque of Sultan Suleiman, Constantinople.

Mr. D. Chester French, Sculptor.

IN our issue of January 12, 1912, we illustrated Mr. Cass Gilbert's "Customs House, New York," and showed on a small scale the sculpture with which the building is adorned. This work, by Mr. D. Chester French, is of such interest that effective illustrations will be welcomed, together with the comments, beginning on p. 5, on the sculptor's achievements.

The Fountain of Cybele, Madrid.

THE Fountain of Cybele is in the Calle de Alcala, the broad and busy street that runs into the famous Puerta del Sol, which is no longer a gateway, but is the central place of the capital—the Piccadilly Circus of Madrid," as it has been called. The position of the group is good, and it has been the subject of many an artist's pencil. Mr. Conrade saw it as a foil to the buildings in the background, including the Church of S. Isidro, and he treated it as decoratively as possible, leaving out, for example, the modern railing which now surrounds the Fountain.

The Admiralty Pier, Dover.

NOT every artist can go to the Panama Canal like Mr. Joseph Pennell, to whose interesting lecture we referred last week (p. 776), but many have seen during the last fifteen years, by chance or otherwise, the great engineering work which has been in progress at Dover Harbour. There the "wonder of work" has been displayed impressively, and if the scale of the operations has not been so great as that which has made the work at Panama so noteworthy, the scenes in the Kentish landing-place have touched the imagination of all visitors. Mr. Wilfrid Walter was one of those who saw the Goliath cranes manipulating, under human control, the great blocks of concrete, 40 tons in weight, and engaged in lowering or in raising the huge diving-bells with their living freight. Such a subject was not to be missed. Giving artistic expression to the facts, the artist has realised successfully the pictorial possibilities of industry, an achievement which may lead to the development of his skill in this direction.

Since the time when Julius Cæsar attempted to land in Britain the Kentish Coast has been identified with shipping of all kinds, and throughout the maritime history of England Dover especially has been a centre of activity. The close of the XIXth century witnessed the initiation of a new era in the life of the port. When arrangements for the Great Exhibition were in progress the Admiralty Pier at Dover was begun, and in 1854 the first extension was necessary. Since then several additions and alterations have been effected. In 1895 the Pier was surveyed by Messrs. Coode, Son, & Matthews, who subsequently drew up a scheme which was adopted. The contract was let to Messrs. Pearson & Son, Ltd., and in a few years the appearance of the National Harbour

was transformed. Sea works of great magnitude, to a large extent in deep water, were carried out, and on October 15, 1909, the harbour was inaugurated formally by King George, then Prince of Wales.

Meanwhile, plans had been drawn up for improving the facilities for embarkation from the railway terminus, and in 1909 reclamation work was begun east of the Admiralty Pier to provide a site of about 12 acres for a new station and sidings. Messrs. Pearson & Son, Ltd., were the contractors again. The reclamation is being effected by the Dover Harbour Board, with Mr. A. T. Walmisley, M.Inst.C.E., as their constructive engineer, and Mr. A. C. Hurtzig, M.Inst.C.E. (of Messrs. Baker & Hurtzig), as consulting engineer. It was during the progress of this later work that Mr. Walter made the drawing reproduced in this issue. The new Marine Station will be begun this year from the design of Mr. P. C. Tempest, M.Inst.C.E., engineer to the South Eastern and Chatham Railway; and when the whole work is completed the Port of Dover will possess extraordinary facilities for passenger and goods traffic.

Parliament Buildings, Winnipeg.

MR. G. A. BLIGH LIVESAY, F.R.I.B.A., informs us that, associated with him in the design for the Parliament Buildings, Winnipeg (the *Builder*, December 20, 1912), was his late partner, Mr. C. R. Winter, A.R.I.B.A., who is now in Government employment in Australia.

MEETINGS.

MONDAY, JANUARY 6.

Royal Institute of British Architects.—Business meeting. 8 p.m.

University of London (Victoria and Albert Museum).—Mr. Banister Fletcher on "English Mediæval Architecture: The Mediæval Period. The Evolution of Plans, Vaulting, Buttresses, Flying Buttresses, and Pinnacles." 5 p.m.

WEDNESDAY, JANUARY 8.

Nottingham Architectural Society.—Exhibition and criticism of plans for laying-out new streets. 8 p.m.

THURSDAY, JANUARY 9

The Concrete Institute.—Mr. W. Valentine Ball on "Concrete in its Legal Aspect." 7.30 p.m.

Sheffield Society of Architects.—Mr. H. I. Potter on "The Work of Alfred Stevens."

Leeds and Yorkshire Architectural Society.—Mr. Herbert T. Buckland on "Shop Talk." 6.30 p.m.

University of London (British Museum).—Mr. Banister Fletcher on "Roman Architecture: The Roman Fora, Town Planning, Rectangular Temples." 4.30 p.m.

The Institution of Electrical Engineers.—Professor Miles Walker on "The Design of Apparatus for Improving the Power Factor of A. C. Systems." 8 p.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 29.

Baths, Newcastle-on-Tyne.

Mr. H. W. Wills, A.R.I.B.A., has been retained by the Estate and Property Committee of the Corporation of Newcastle to advise them as to proposed sites for three sets of baths to be built by the Corporation. Mr. Wills will draw up the conditions for a competition for the baths and will adjudicate the designs submitted.

Town-Planning Scheme, Huddersfield.

This was a competition, promoted last July by the Housing and Town Planning Committee of the Huddersfield Corporation, for the laying-out of certain areas within the County Borough and part of an adjacent suburb. The suggestion originated with Mr. W. P. Raynor, J.P., who offered to lay down a sum of money, contributed by himself and some friends, as an honorarium for the author of the best design. The first premium (100 guineas) has been awarded to Mr. Alfred Hill, A.R.I.B.A., of 23, Thornton-road, Huddersfield; the second premium (50 guineas) to Mr. M. A. Piercy, M.Inst.C.E., Mr. W. H. Beeston, Mr. C. B. Thomson, and Mr. Paul H. Solon; and the third premium (25 guineas) to Messrs. Hart & Turner, Netheredge, Sheffield.

Council School, Chorley.

In this competition the first premium (30*l.*) has been awarded to Messrs. A. J. Shaw and T. H. Vowles, 35, St. James's-street, Burnley; the second premium (20*l.*) to Messrs. Henry Jones & Son, Cambridge Arcade, Southport; and the third premium (10*l.*) to Messrs. Ernest H. Smith & H. Millar Robinson, Rutland Chambers, Welford-place, Leicester.

West China Union University, Chengtu (Province of Szechwan, West China).

The Board of Governors recently invited competitive drawings from four firms of architects with a view to selecting one of them as official architects of the University. The firms invited were:—Messrs. Gordon & Helliwell, Toronto; Messrs. Fred. Rowntree & Son, London; Messrs. Silcock & Reay, Bath; and Messrs. Stoughton & Stoughton, New York.

The plans were considered in Toronto, and, acting on the recommendation of their architectural adviser, Mr. R. C. Ricker, the Board unanimously accepted his Report, and have appointed Messrs. Fred. Rowntree & Son, of London, as their architects.

School Buildings, Reading.

The Town Council of Reading will promote shortly a competition, limited to architects practising in the neighbourhood, for new school buildings.

Regent-street Quadrant.

According to yesterday's *Pall Mall Gazette*, a Committee appointed by the Treasury three months ago to consider designs for completing Regent-street Quadrant have practically approved, with certain modifications, those that have been submitted to them by Messrs. John Belcher, R.A., & J. J. Joass.

ROYAL INSTITUTE OF BRITISH ARCHITECTS:

BOARD OF ARCHITECTURAL EDUCATION.

WE have received the following particulars of subjects VII., VIII., and IX. of the alternative problems in design in the R.I.B.A. Final Examination:—

1. The drawings, which should be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education at the Royal Institute of British Architects, 9, Conduit-street, W., on or before the dates specified below.

2. Each set of drawings must be signed by the author, and his name and address, and the name of the school, if any, in which the drawings have been prepared, attached thereto.

3. All designs, whether done in a school or not, must be accompanied by a declaration from the student that the design is his own work and that the drawings have been wholly executed by him.

In the preparation of the design the student may profit by advice.

4. Drawings for subjects (*a*) are to have the shadows projected at any angle of 45 deg. in line, monochrome, or colour. Drawings in subjects (*b*) are to be finished as working drawings. Lettering on all drawings to be in a clear scholarly character.

Subject VII.

(*a*) A monumental staircase and vestibule to a large museum. Scale of drawings 8 ft. to 1 in. with two ½-in. scale detail sections.

(*b*) A village inn with not more than eight bedrooms. The site, which is not a corner one, has an 80-ft. frontage with no lighting available on either side. Scale of drawings 8 ft. to 1 in. with ½-in. scale details.

Subject VIII.

(*a*) A covered carriage entrance to a large hotel built in stone. Drawings required: ½-in. scale key elevation of the hotel façade and ½-in. scale detail drawings of the entrance.

(*b*) Design for a gatehouse to a college. Scale of drawings 8 ft. to 1 in. with ½-in. scale details.

Subject IX.

(*a*) A monument in a public place containing one or more fountains commemorating the bringing of water to a town. Drawings to ½-in. scale with one general plan of the place to $\frac{1}{16}$-in. scale.

(*b*) A design for a bank in a small country town on a corner site. Scale of drawings 8 ft. to 1 in. with ½-in. scale details.

Dates for Submission of Designs in 1913.

	Subject VII.	Subject VIII.	Subject IX.
United Kingdom	28th Feb.	30th April	30th June
Johannesburg ...	30th April	30th June	30th Aug.
Melbourne	31st May	31st July	30th Sept.
Sydney	31st May	31st July	30th Sept.
Toronto	31st March	31st May	31st July

FIFTY YEARS AGO.

From the *Builder* of January 3, 1863.

The Mausoleum of Halicarnassus Restored.

OF all the schemes that have engaged the attention and exercised the ingenuity of scientific men, none has elicited a greater number of opinions than the restoration of this renowned masterpiece of antiquity, from the scant description and conflicting dimensions of Pliny. How could a building 63 ft. in length and shorter in width have a circumference of 411 ft.? How could a pteron, 37½ ft. in height, and a pyramid above it also 37½ ft. in height, make up a total of 140 ft.? Well might the speculations of architects have produced results so widely differing.

*** A restoration of this "World's Wonder" was attempted by Cockerell in 1847—that is, ten years previous to the discovery of the site and remains. It represented an oblong structure consisting of podium, peristyle, and pyramid. Texier, throwing over all authority with that splendid Gallic audacity that claimed the Aphrodite from Melos as a creation of the grand period, despite the compromising legend inscribed upon its base, constructed a circular edifice; while Fergusson evolved something Indian and octagonal. Deceived by Pliny's statement that the pyramid equalled the lower part in height, Cockerell designed that feature abnormally tall, but his general conception of the tomb was singularly verified by the facts which the actual remains disclose.

An entirely satisfactory restoration is not possible. The Knights of St. John so effectually destroyed the structure at the beginning of the XVth century, using its material towards the erection of the Castle of Budrum, that many data are still wanting.

The discovery of the actual site was made by Charles Newton, later Sir Charles, Vice-Consul at Mytilene. It was our custom to send out as Vice-Consuls in such districts, men possessed of the acquirements requisite for archæological research. None could have been more competent than Newton in these respects. A scholar, conversant with the spirit of Greek genius, he was a man armed with a command alike of the most honeyed speech, and the most uncompromising of attitudes, as circumstances might dictate—an essential combination for successful dealings with the Ottoman. He was, later, Chief of the Department of the Greek and Roman Antiquities in the British Museum, and as such will, no doubt, be remembered by many of our readers.—ED.

BOOKS RECEIVED.

POST OFFICE LONDON DIRECTORY, WITH COUNTY SUBURBS, 1913. (Kelly's Directories, Ltd.)

LE PARTHENON. (Paris: Librarie Centrale d'Art et d'Architecture.)

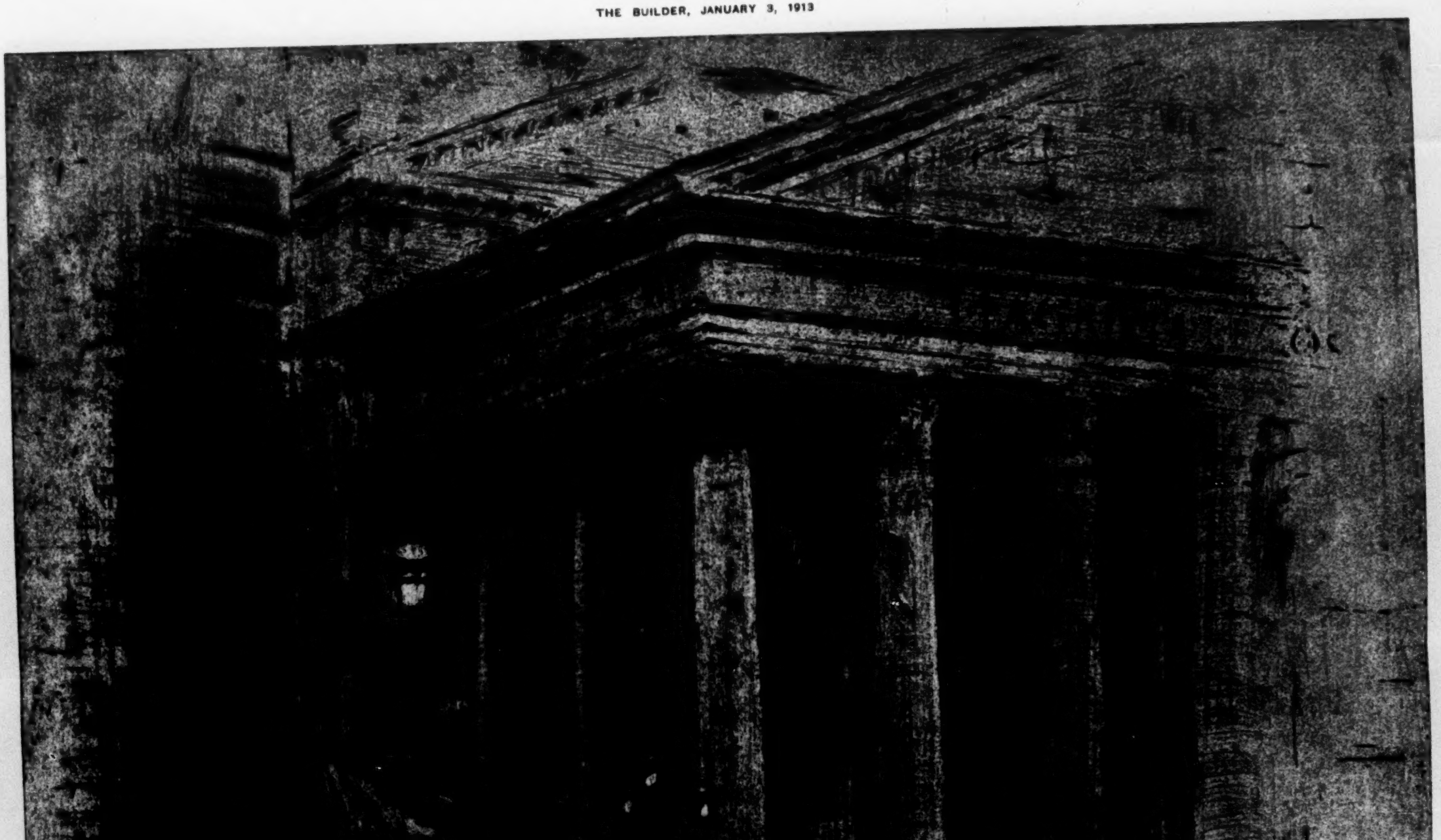
PUBLIC BUILDINGS IN EDINBURGH.

In the House of Commons on Monday Mr. Hogge inquired of the representative of the First Commissioner of Works what were the reasons which induced him to decide that the designs for the new Government Buildings on the site of the Calton Gaol should be carried out in the Office of the Board of Works; and whether, in view of the national character of those buildings, he could reconsider his decision.—Mr. Benn replied that the Committee, having examined the designs and models prepared in the Office of Works, Edinburgh, considered an open competition unnecessary. Questioned by Mr. Goldsmith to state the reason why designs for important public buildings are no longer put out to open competition, Mr. Benn said that each case was considered on its merits, and this was done in this case.

A CORNER OF THE PANTHEON, ROME.—From an Etching by Mr. W. Walcot.

DOMINUS DIRIGE NOS
LOOKING WEST
THE NORTH-EAST CORNER
PLAN

"INK-PHOTO" SPRAGUE & Co Ltd 69 & 70, DEAN STREET, SOHO, W.



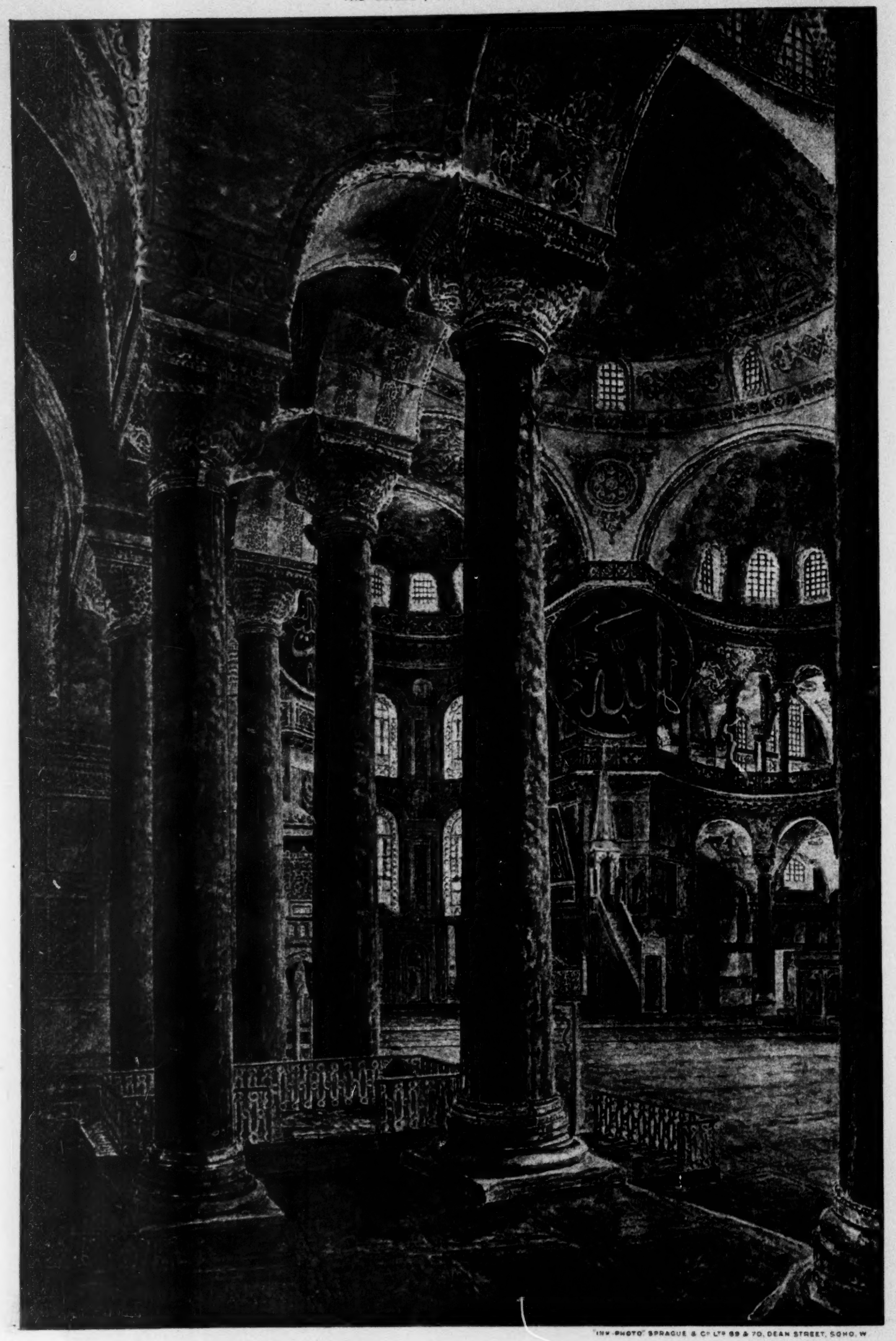
"INK-PHOTO" SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

A CORNER OF THE PANTHEON, ROME.—From an Etching by Mr. W. Walcot.

THE MOSQUE OF SULTAN SULEIMAN, CONSTANT

"INK-PHOTO" SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

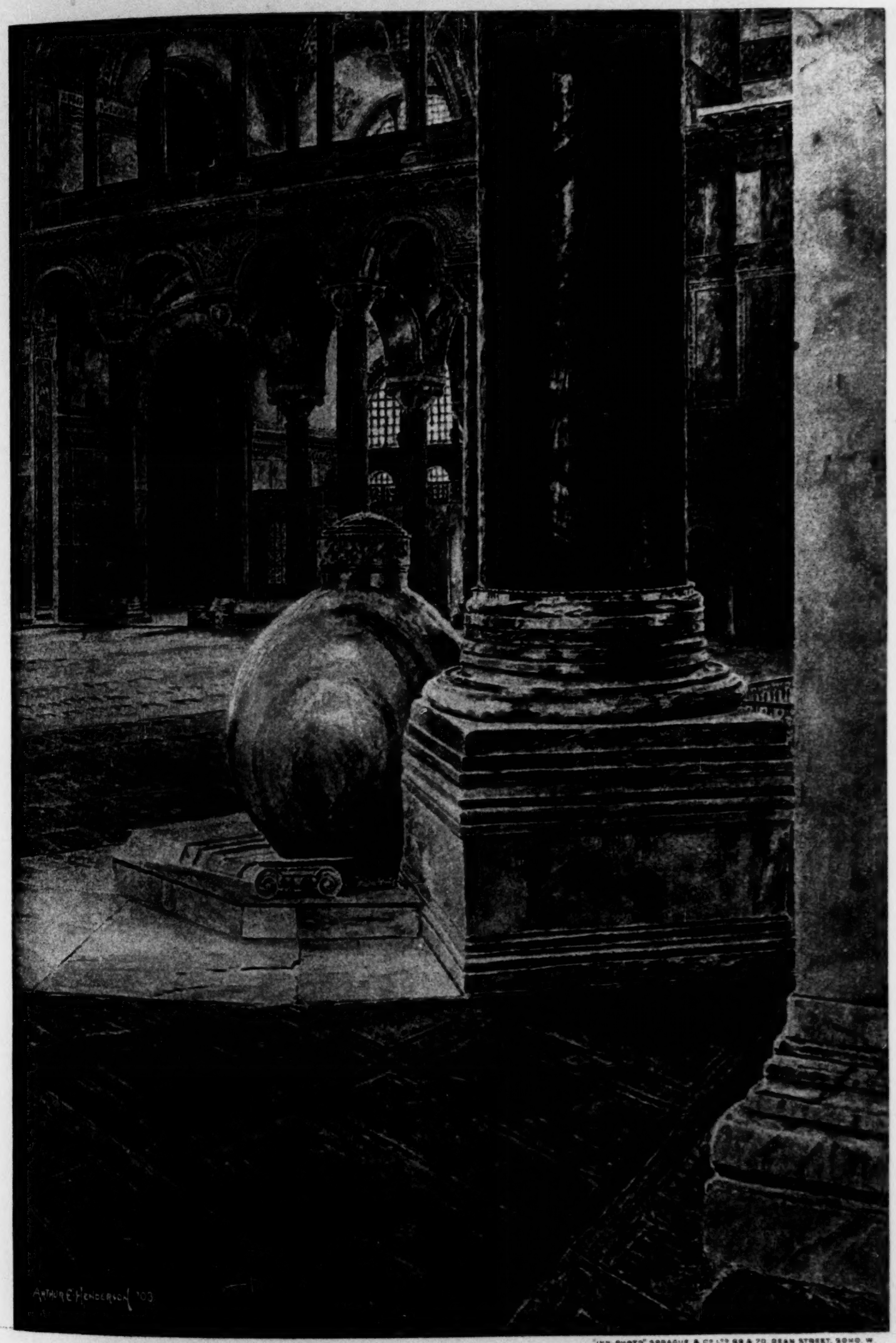
LEIMAN, CONSTANTINOPLE.—From a Painting by Mr. Arthur E, Henderson.



"INK-PHOTO" SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

SANTA SOPHIA, CONSTANTINOPLE: INTERIOR FROM THE CENTRAL-NORTHERN AISLE.

From a Water Colour Drawing by Mr. A. E. Henderson.



"INK-PHOTO" SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

SANTA SOPHIA, CONSTANTINOPLE: THE NAVE FROM THE NORTH-WESTERN AISLE.

FROM A WATER COLOUR DRAWING BY MR. A. E. HENDERSON.

"INK-PHOTO" SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W

STATUE OF CAPTAIN CORAM, FOUNDLING HOSPITAL.—From a Pencil Drawing by Mr. B. R. Penderel-Brodhurst.

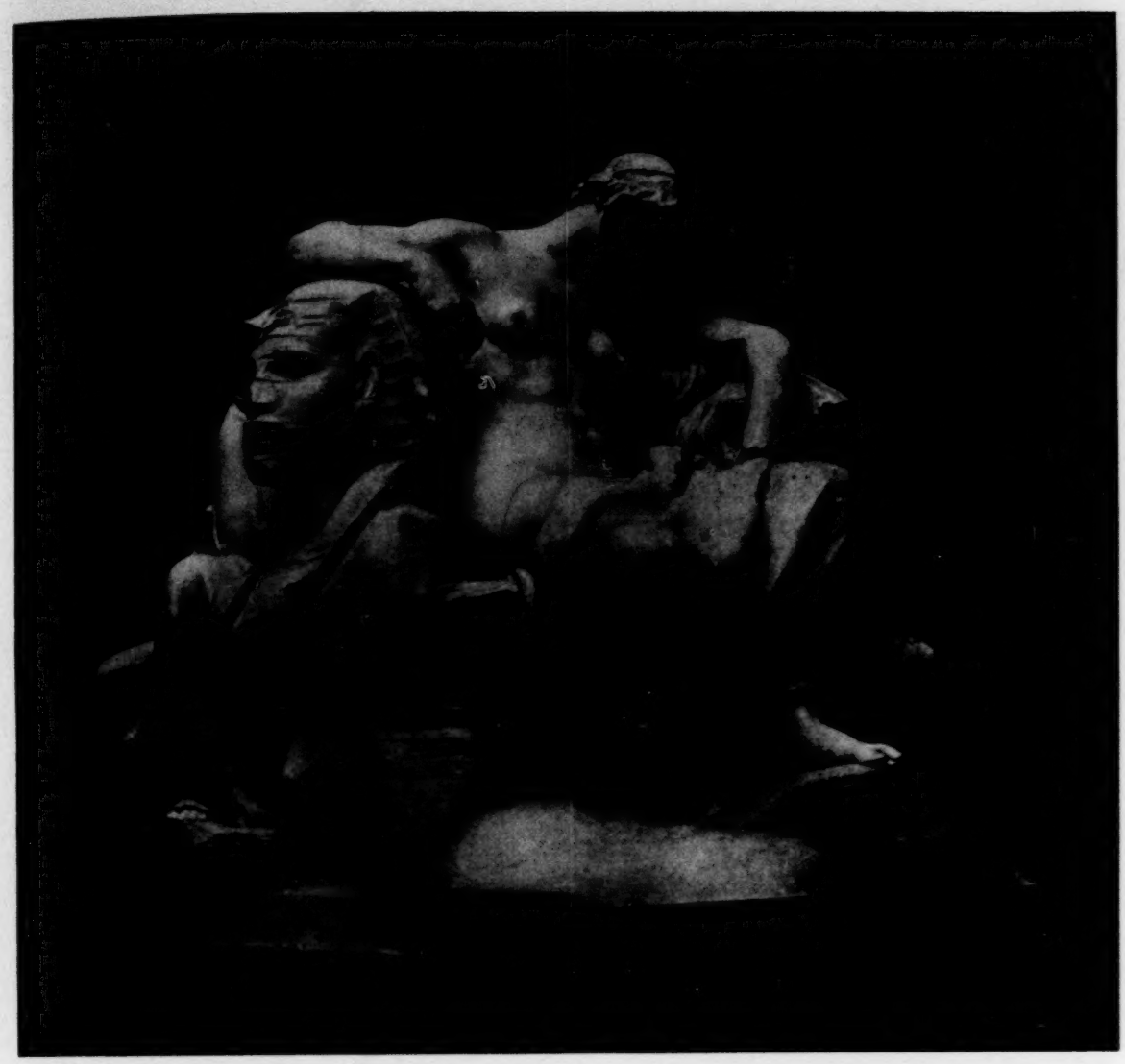
INK-PHOTO. SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

THE MONUMENT, E.C.—From a Pencil Drawing by Mr. W. Godfrey Allen.

EUROPE.

ASIA.

SCULPTURE ON THE CUSTOMS HOUSE, NEW YORK.—MR. [illegible]



AFRICA

AMERICA.

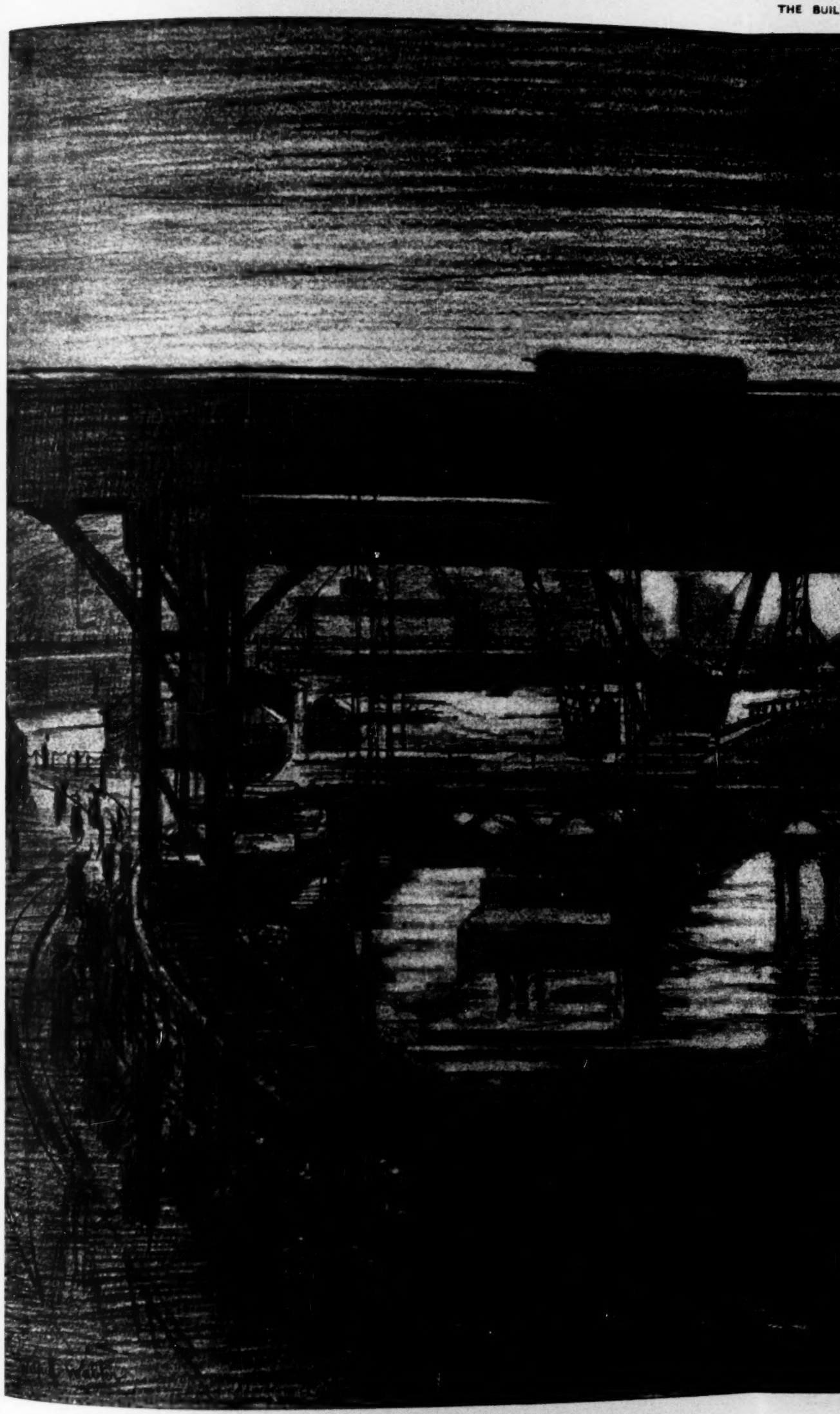
Sprague & Co. Ltd., Printers, 67 & 70, Dean St., Soho, W

YORK.—MR. DANIEL CHESTER FRENCH, SCULPTOR.

FOUNTAIN ON THE PLAZA ALCALA, MADRID.—Fr

INK-PHOTO SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

CALA, MADRID.—From a Water Colour Drawing by Mr A. C. Conrade.



THE GOLIATHS ON THE ADMIRALTY PIER

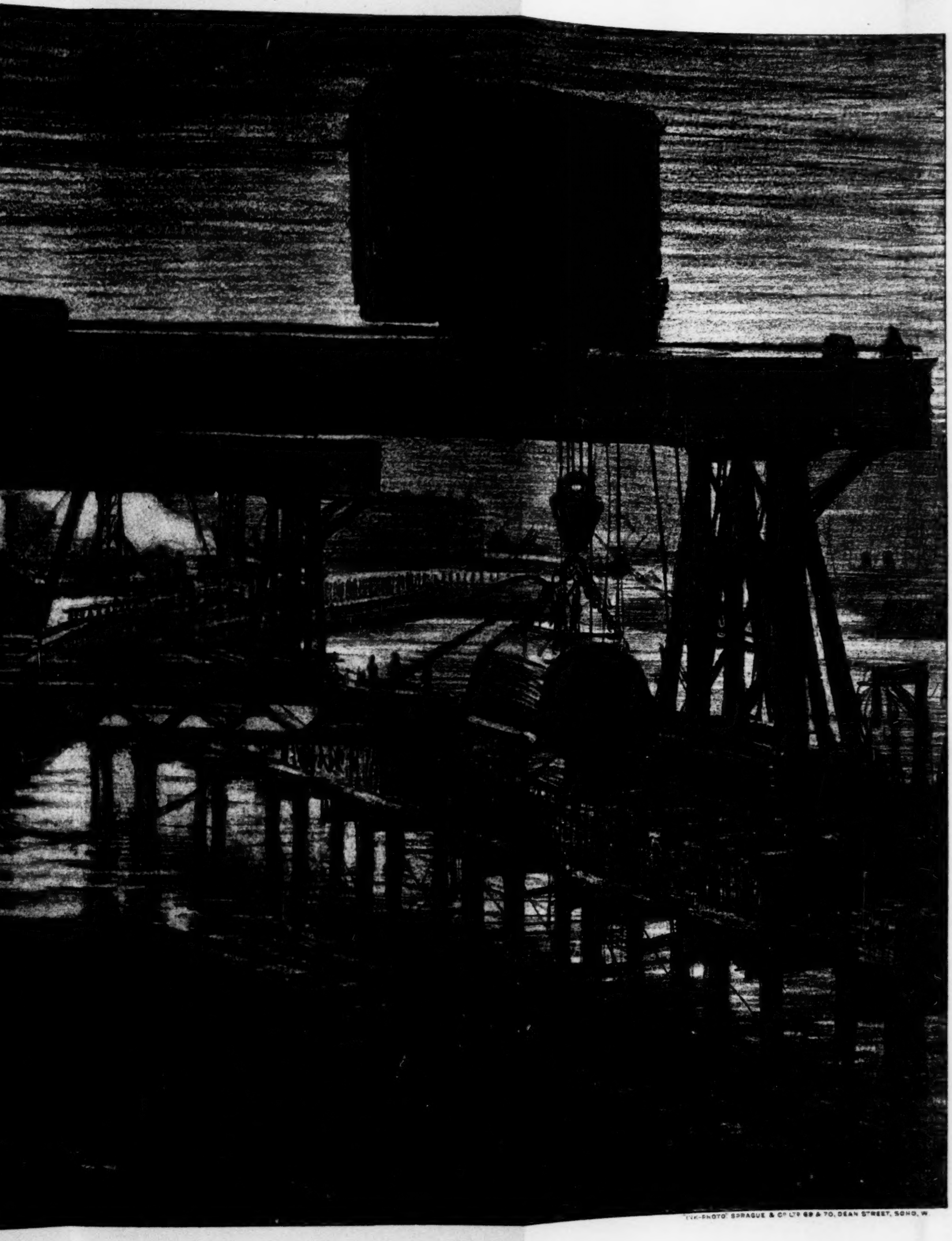
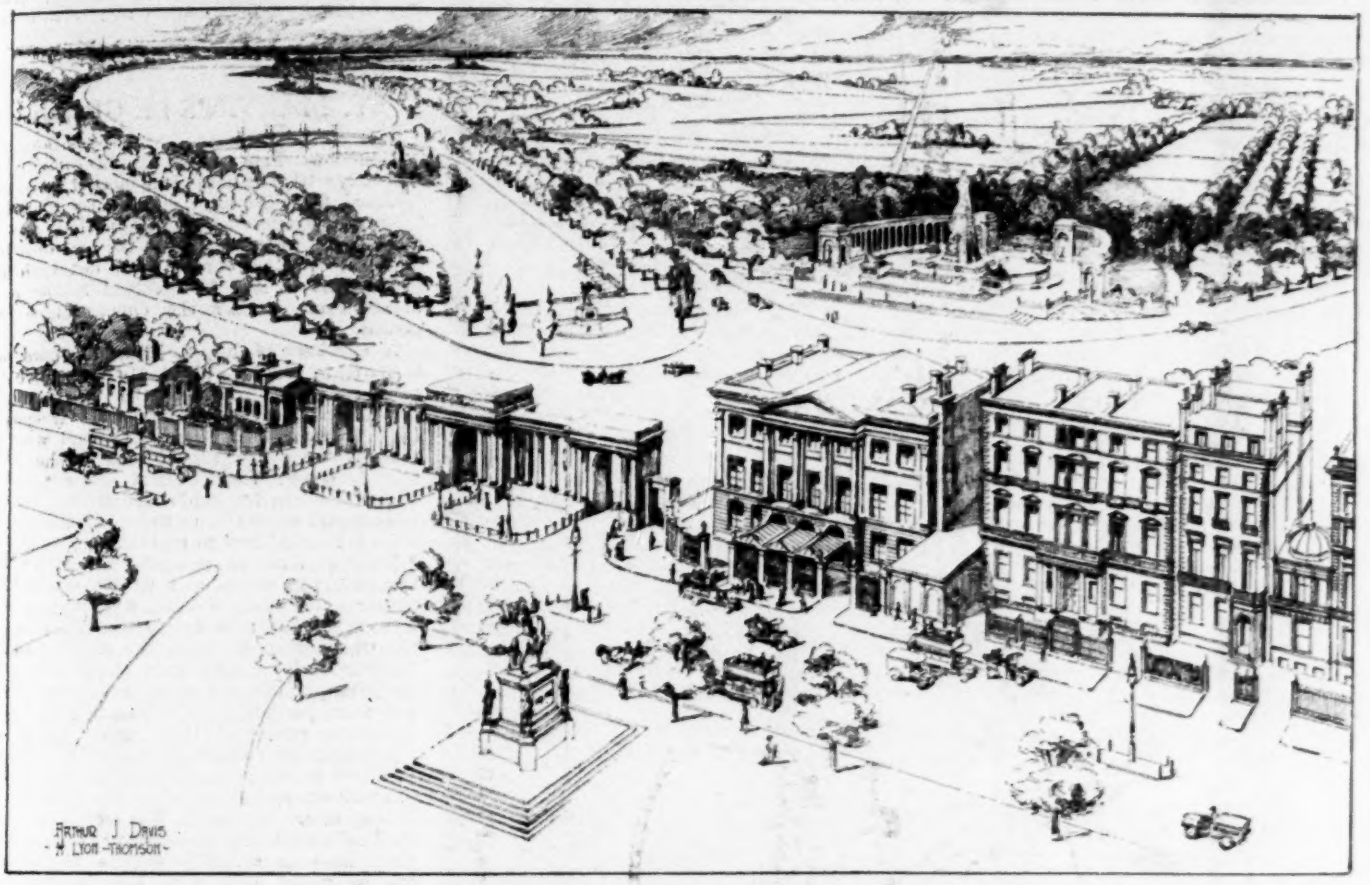


PHOTO SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

IE ADMIRALTY PIER, DOVER.—From a Pencil Drawing by Mr. Wilfrid Walter.

MONTHLY REVIEW · *of* · CIVIC DESIGN.



Suggestion for Improving Hyde Park.

By Mr. Arthur J. Davis and Mr. H. Lyon Thomson.

A SUGGESTED IMPROVEMENT AT HYDE PARK CORNER.

A RECENT suggestion that Kensington Palace may possibly at some future date become the principal London residence of the Sovereign lends a special interest to any schemes put forward for the improvement of Hyde Park. Should such an idea ever be carried out the Park would be brought into more intimate relations with a Royal Palace, and it is only to be expected that in such an event considerable improvement would be thought necessary.

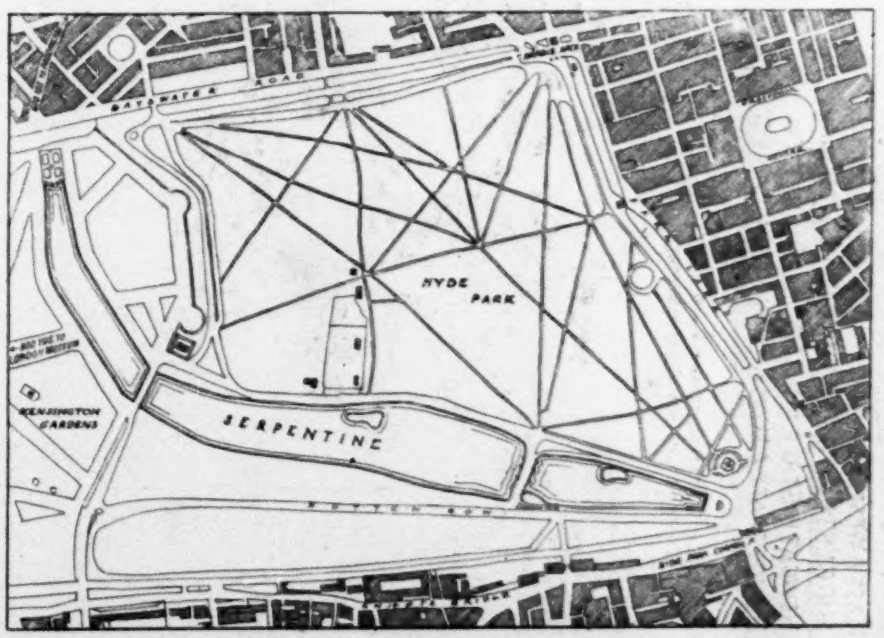
But in any event Hyde Park calls for improvement. Much of the central area seems somewhat bare, unfinished, and generally unattractive, while its southern boundary, enclosed, encroached upon, and overlooked by the backs of shops and other buildings in Knightsbridge, is a standing reproach. Some day, let us hope, all these buildings will be cleared away, when Knightsbridge-road will become the boundary of the Park, and Hyde Park Corner will receive an adequate architectural treatment.

The present incoherent and chaotic condition of this important site has long been lamented, and various schemes, such as those by Professor Adshead and Mr. Speaight—illustrated in former numbers—have been put forward for dealing with it. Such schemes as these, however, have been chiefly concerned with the space outside the Park rather than with that within.

The scheme we publish to-day, designed by Mr. Arthur J. Davis, architect, and Mr. H. Lyon Thompson, Mayor of Westminster, is an attempt to deal with the rather shapeless space immediately within the entrance gates of the Park, and presents features of considerable interest. The authors put it forward simply as a sketch proposal to show what could be done to improve one of the most important sites in London—one which naturally lends itself to a decorative treatment.

The perspective sketch and accompanying plan illustrate a suggestion for a memorial to some Royal personage, together with some rearrangement of Hyde Park Corner, and a scheme for the lengthening of the Serpentine. Each portion of the scheme is complete in itself, and might be worked out independently; but the authors would prefer that the two conceptions be considered together as making a complete architectural treatment of this prominent position in the Park.

The spot occupied by the existing statue of Achilles, with the adjacent land, has been chosen by the authors for the site of the memorial, which, being opposite the central arch of the Burton Gate, would occupy a position of prominence clearly visible from Piccadilly, and yet removed from the traffic, while the existing roads and adjacent drives in the Park would be in no way interfered with. The situation appears a favourable one for such a proposal, being in close proximity to Buckingham Palace



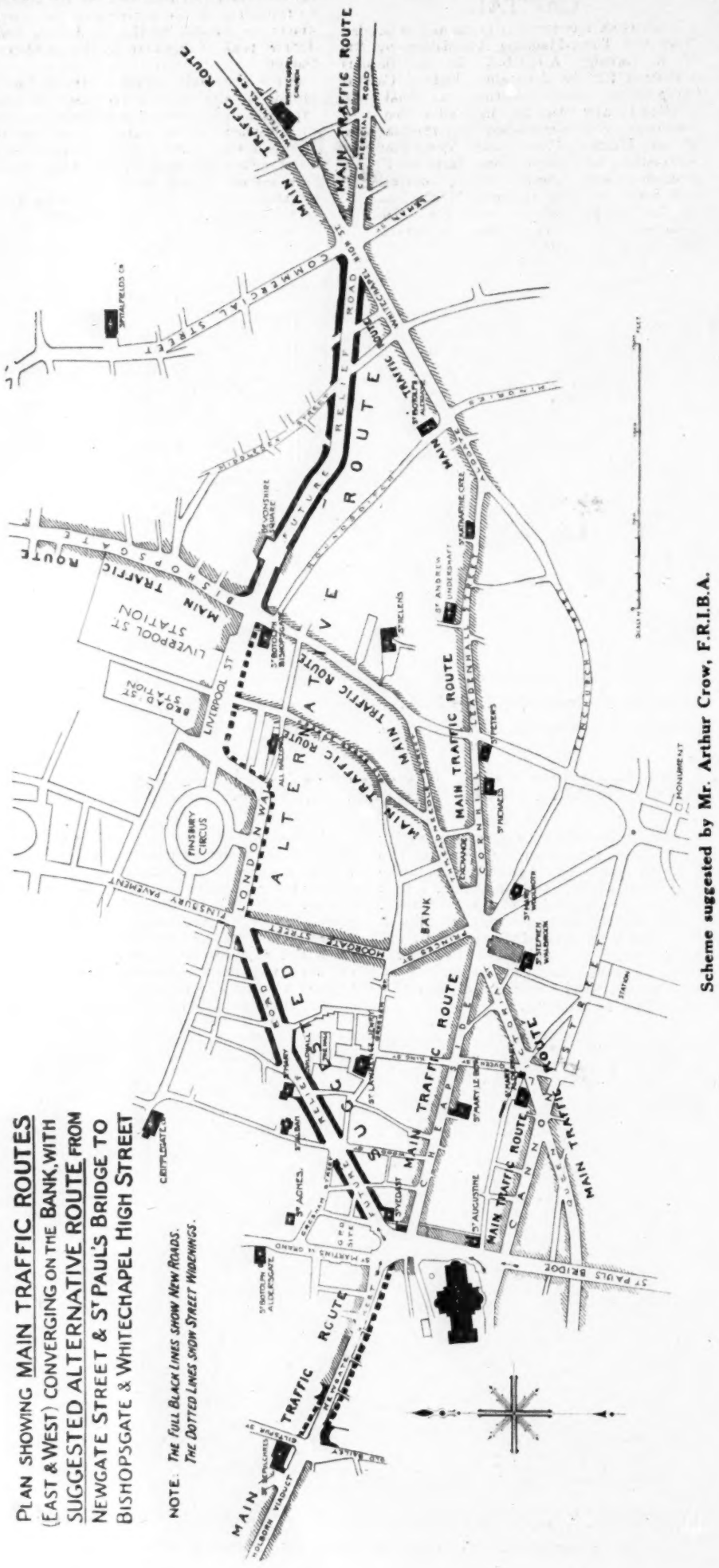
Plan in connexion with suggested Scheme for Improving Hyde Park.

and to the new Victoria Monument. The monument, which has not been considered in detail, would be flanked on either side by semi-circular colonnades of the same order as that of the Burton Gate, thus embodying the present beautiful Park entrance in the scheme.

The scheme also shows the Serpentine extended as far as the Piccadilly end of Rotten Row; this extension could be accomplished without a great amount of digging or banking, and would entail the removal of very few trees.

The object of this addition to the Serpentine s to give from Hyde Park Corner a fine vista of a waterway, which, when lengthened as shown, would be 1¼ miles. It would be spanned by a new decorative bridge in the position where it now terminates. The existing statue of Achilles would be removed and placed in the position at the head of the river as shown on the sketch.

At the other end of the Serpentine in Kensington Gardens, near the Bayswater-road, there exists at present a pumping station of a very unsatisfactory design, and it is suggested that this building might be replaced by a decorative fountain or a restaurant and tea-room, with terraces overlooking the Serpentine. The basement to be designed to receive a new electric pumping apparatus.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without making any special provision for it, especially at the junction of Cheapside, Aldersgate-street, and Newgate-street; and we published a plan showing the buildings at the end of Paternoster-row set back in a line with the Post Office in Aldersgate-street, and the shops at the end of Cheapside pulled down to open up St. Vedast's Church to terminate the vista in Newgate-street. If this bridge is to fulfil the function imposed upon it, and to be taken seriously as a through traffic route, it certainly is necessary that something should be done. But, although a wrong idea, however skilfully handled, can never develop into so fine and characteristic an effect as can one which is inherently true in conception, yet, from a practical point of view, there is all the difference between making the most of any opportunity left or leaving such a scheme to be developed in the unimaginative and piecemeal fashion with which unfortunately we are only too well acquainted.

An opportunity for making a start with the architectural development of the approach to this bridge appears to be afforded by the demolition of the old General Post Office; and an important new element in the problem has been introduced by Mr. Arthur Crow's suggestion for a new street from this point by way of Finsbury Circus to Commercial-road to relieve the congestion of Cheapside. We publish a sketch plan of this road, from which it will be seen that, following the lines of one we published in our first article from the Commercial-road as far as Finsbury Circus, it there strikes across diagonally to join the western end of Cheapside, taking everywhere the line of least resistance. Although the immediate practicability of this new road may not altogether commend itself to the City Corporation, there seems little doubt that it is an eventuality which should be borne in mind. There is much force, therefore, in Mr. Crow's suggestion that the Post Office Building should, when rebuilt, be set back at least 70 ft. from St. Vedast's Church to allow width for the construction of the new street between them at some future date.

We understand this suggestion is supported by the London Society, and that the representations made to the Corporation and to the Office of Works have been sympathetically received with every endeavour to meet all reasonable suggestions. There seems to be grounds for hope, therefore, that a local improvement will be effected which will permit a finer architectural treatment of the open space between the Post Office and St. Paul's.

Incorporating Mr. Crow's idea in the sketch plan we originally published in July, 1910, Mr. Adrian Berrington has endeavoured to develop the architectural possibilities of the situation. His charming sketches, which are grouped on a plate in this issue, by showing the enormous advantages to be obtained in the future by setting back the Post Office, as suggested by Mr. Crow, should, we think, help to strengthen the representations of the London Society on this point, which, it must be understood, is the only point with which this Society is immediately concerned.

The plan, as now developed by Mr. Berrington, shows the General Post Office on the axial line of the new bridge, terminating its vista with a dominant feature. A frontage line from St. Augustine's Church to St. Vedast's on the east side, and from St. Paul's to the present Post Office on the west, permits the space between them to be treated symmetrically on this main axis. The demolition of the buildings between Old Change and St. Paul's will create a new frontage, the increased value of which, if now acquired by the Corporation, would permit of a fine architectural treatment in harmony with the east end of the Cathedral, and reminiscent of the associations of "Old Change." Although, as we are inclined to think, no really adequate treatment of the surroundings of St. Paul's would permit buildings to remain between Paternoster-row and the Churchyard, this larger question is not our concern for the moment, and a fine building is suggested at the end of Newgate-street which would carry on the line of the west side of Aldersgate-street in proper relation to the east end of the Cathedral.

The fact that this open space, the highest point in the City, was at one time the spot at which Watling-street crossed the brow of the hill to dip down to the ford over the Holebourne, at what is now Newgate, and that later, in Saxon times, it was the site on which the Folkmote used to assemble, invests it with an historic interest that should not be ignored. Mr. Berrington, in his sketch, has made the happy suggestion of placing an oak-tree in the centre of the open space as a memorial of the original oak under which our remote forefathers in local parliament assembled.

AUSTRALIAN FEDERAL CAPITAL.

A LECTURE was recently given at the Garden Cities and Town-Planning Association by Mr. W. R. Davidge, A.R.I.B.A., on the designs submitted for the Australian Federal Capital Competition. After pointing out that the creation of new cities on virgin sites free from restrictions is in accordance with the teaching of the Garden Cities and Town-Planning Association, and giving some facts as to the promotion and conduct of the competition, with which our readers are no doubt familiar, Mr. Davidge proceeded to make some observations on the winning design, of which the following is an abstract:—

The first premiated design is naturally the one of most interest. As will be seen at the first glance, the scheme is almost entirely formal in character and arranged in strictly geometrical pattern. (The *Builder*, August 2, 1912.)

The town, itself already divided into two by the River Molonglo, is to have two main centres—that on the north side of the river to be devoted to civic matters, and that on the south to the buildings connected with the Commonwealth Government.

Dominating the south side of the river, on a prominent rocky spur from the Narrabundah range, is to be placed the Capitol, or executive Government Building, the Parliament Buildings being placed on a slightly lower eminence 90 ft. below, and the various Government offices on successive terraces reaching down to the river front.

Around the central building of the Capitol is situated a circular central park rather over half a mile in diameter, and from the circular avenue surrounding the Capitol radiate eight main avenues, each 200 ft. wide.

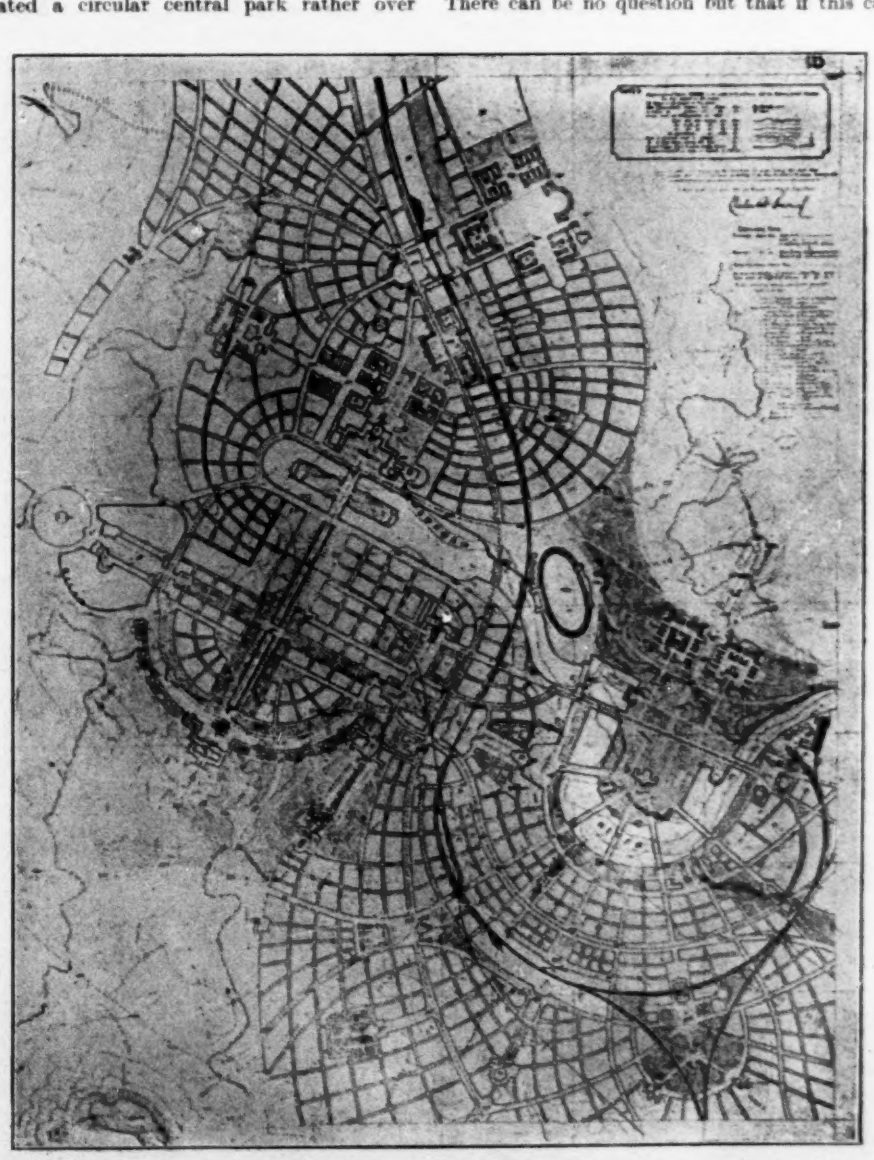
Two of these main avenues cross the river by means of bridges, one going almost due north to the civic centre, and the other north-easterly to the railway-station on the opposite bank. The axis line of the whole plan lies between these two main avenues, and is arranged to terminate in the summits of the mountain known as Ainslie, to the north-east, and the distant peak of Bimberi, to the south-west of the city.

From the civic centre north of the river radiate six similar main avenues, and with the expansion of the town it is apparently proposed to construct further suburban centres at intervals of every two miles or so, with the same six or eight radiating avenues, carried on almost *ad infinitum*, if no further.

Napoleon I. is credited with being particularly struck with the advantages of the "round-point," with a large number of converging streets in order to provide a spot at which, if necessary, cannon could be put to keep the people in order. The Commonwealth Government of Australia, in introducing such a system of streets radiating from the Government Building, has no desire to keep such an eye on the people, but it is possible that the people may find the system of advantage to keep an eye on the Government.

In addition to the public buildings of the Government departments provision is made in the design for a University Building, Law Courts, National Gallery, museums, technical colleges, etc., most of these being arranged on the northern side of the Molonglo.

The point that first strikes the observer in the prize design is the great use made of the river frontage. It is proposed by damming back the river to form a series of five large lakes along the whole front of the town, the total water area of the lakes being nearly 5 sq. miles. There can be no question but that if this can



The Federal Capital City, Canberra: Second Premiated Design.

By Mr. Eliel Laarinen, Helsingfors, Finland.

be done it will vastly improve the appearance of the city; the water frontage to the public buildings between the two main avenues before referred to will be nearly a mile in length, and the spectacle can be pictured of terrace upon terrace of buildings rising from the water's edge up to the Parliament Buildings, and crowning all the stately dome of the Capitol.

If the necessary water area for the lakes can be provided this will be undeniably fine, but unfortunately there is some little doubt of its practicability. The Molonglo is a somewhat sluggish stream flowing between steep banks. The river is ordinarily very shallow, and during periods of prolonged dry weather the river ceases to run; though in times of sudden rain the flow of the river is liable to be swollen by heavy floods, it is somewhat doubtful whether the summer flow will be sufficient to make good the evaporation of such a great area of water as 5 sq. miles, remove the risk of stagnant water or mud flats, and at the same time provide for sufficient flow in the stream below the city into which the sewerage must naturally discharge.

Such a point cannot, however, be definitely decided without very careful observations of the flow of the Molonglo over a period of some years. It is much to be hoped that this portion of the scheme will not have to be curtailed.

The flooding over the whole of the flat, low-lying lands in this way may awake the inhabitants of Canberra to the fact too late that they have flooded over the only available site for the racecourse, which is such a popular feature of Australian towns.

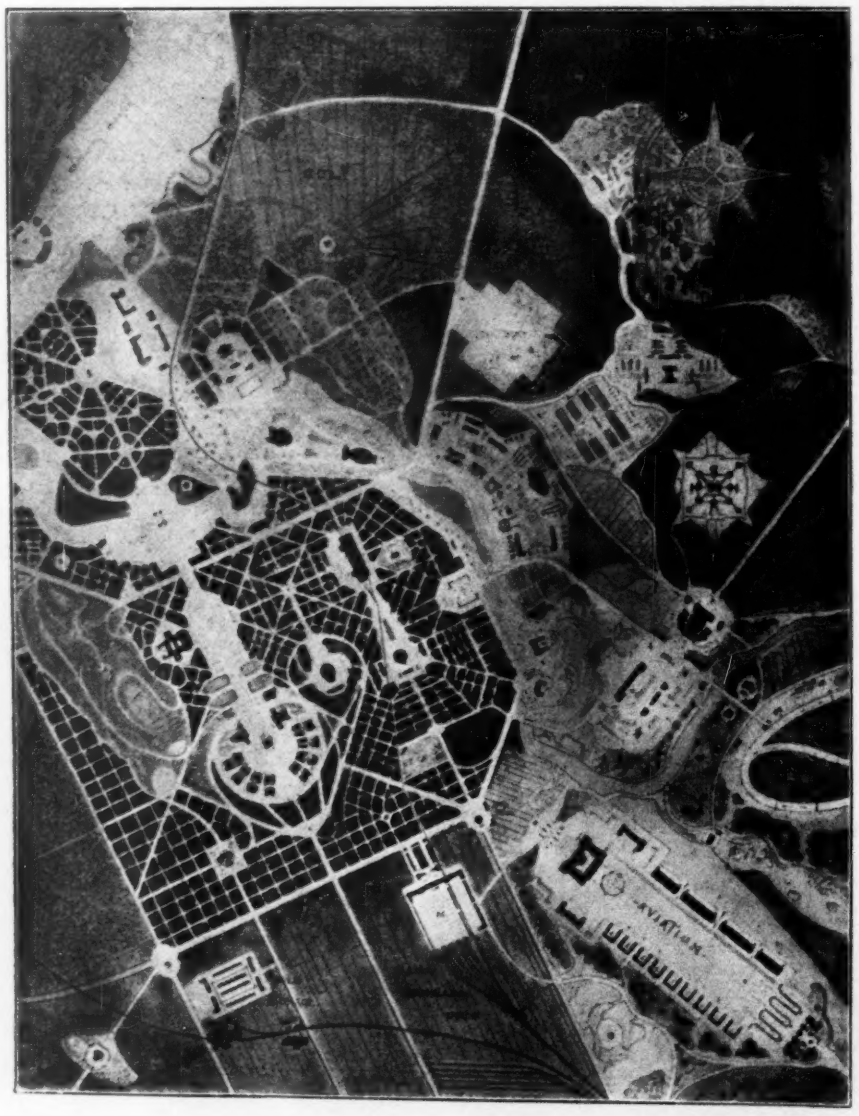
Many economies will undoubtedly be possible in the actual execution of the work, particularly in the construction of the roads. Many instances exist in which thousands of pounds could be saved by a slight rearrangement of the roads or relaxation of the rigid geometrical pattern. The formal framework of triangles, circles, and octagons has been most skilfully adapted to the site, but it is impossible to tamper with Nature and rule the hills into line without vast expenditure of money.

The great width of the main avenues is followed out in proportion in the ordinary roads, although, of course, to nothing like the scale of the spacious 200 ft. wide avenues. Such roads and avenues will naturally be exceedingly costly to construct and maintain, and the Federal Government would do well to take note of the example of Germany where the huge cost of roadmaking has forced up the price of land to an almost prohibitive figure and compelled the barrack-like form of tenement building in place of the low bungalow type beloved by the Australian.

The circular ascents shown on the plan in lieu of the zigzag method of running a road up a hill are distinctly clever, and show one method in which the formal circular outline may be used to practical advantage. The distances from point to point in the city have already been touched upon, and the placing of the railway-station at a distance of a mile and a half or so from the centre of the town will undoubtedly require reconsideration. The position of the railway itself, too, seems to preclude any rapid development of the south-western residential district, the inhabitants of which will apparently be more than 3 miles from the nearest station unless an additional railway line is constructed. In any case, too, the sharp curves in the railway to suit the line of the streets will require reconsideration in actually laying down the design.

The subsidiary roads are almost entirely arranged in gridiron fashion, regular rectangular blocks occurring along all the radiating avenues, the intersections of the radiating streets being modified by construction of streets in octagonal or hexagonal pattern, in every case strictly geometrical, and with but very slight consideration being given to the contours of the land.

In this matter of radiating streets we seem to be very little advanced since the days when Carlsruhe was laid out a couple of hundred years ago, and this same octagonal arrangement of the streets surrounding the various centres is seen in Wren's plan for London and in the far Eastern one-time Russian town of Dalny. Contrast this with the charming, irregular lines of the older German cities and the way in which the picturesque corners and quaint nooks can be made each to provide a fresh feast of delight to the artistic eye. The vision, too, of these unending circuses and star points spreading in the future far away into the distant suburbs awake one to the octopus-like growth of every one of our great cities and the necessity for girdling them round with an open belt of country to give some little breathing-space to the workers and travellers ere they plunge from one seething pot of a town into the seething cauldron of the next.



The Federal Capital City, Canberra: Third Premiated Design.

By M. A. Agache, Paris.

The second prize design, by Mr. Eliel Laarinen, of Helsingfors, Finland, although also formal in character, is of a very different type. The straight streets are few in number, and the whole town is made up of range on range of curving crescents, as far as possible under the shelter of the hills Such a system could obviously not be carried to the upper crests of the hills without abandoning to some extent the crescent form, and accordingly in this design the hilltops are left comparatively open.

South of the Molonglo are two main crescent-shaped boulevards, each with its corresponding and concentric subsidiary crescents. The railway line which separates these two crescents is itself curved somewhat like a gigantic fish-hook in order to accommodate itself to the system of roads. The railway-stations in this design are well placed and handy of access from the Government Buildings and other parts of the town, but the strongly-marked curves of the streets would render direct communication from point to point a physical impossibility. Many of the curves, however, where slight in character would no doubt have a pleasing appearance, and for the residential districts there is much to be said for the adoption of gently curving streets which are calculated to show tree-planting to the greatest advantage.

M. Laarinen would propose to construct a series of formal lakes along the valley of the Molonglo. It will be seen that, although less extensive than in the first premiated plan, the construction of these lakes would in any case involve considerable expense in excavation, embanking, raising, and regulating the levels of the adjoining land. The public buildings are mainly placed either in the principal crescent or fronting a narrow ornamental water constructed for the purpose. No provision appears to be made for further extension of the town, and this on the whole is probably an advantage, as the town is thus to a large extent left in the setting of wooded hills.

The third prize design, by M. A. Agache, of Paris, has made use of the central hill known as Kurrajong for a national monument, around which are grouped the various departmental buildings, with Parliament House not far distant. Many of these public buildings, however, will, by reason of the hill intervening, be out of sight from one another, and the effect of thus grouping them in such a position would be largely lost.

The main axis of the plan is on a line from Black Mountain on the north-west to Kurrajong in a south-easterly direction, and with the exception of a few main avenues following this general direction the framework is filled in by a rectangular system interlaced by diagonal streets. In the outskirts of the city one or two "garden suburbs" are suggested, and these, it will be seen, might almost have been lifted bodily from one of two well-known English examples.

The plan is noteworthy as showing a large area to be used as an "aviation ground," and also in having the courage to show a cemetery occupying a considerable portion of the hill almost immediately opposite the centre of the city, another spur of the same hill being occupied by the "gaol." The River Molonglo is in this plan shown entirely unaltered, and, as will be seen, the area given up to railway shunting yards is considerably beyond what the needs of the city are likely to require.

Of the premiated designs the selected design of Mr. W. B. Griffin undoubtedly stands easily first, but it is to be hoped that in the public exhibition of the plans in Melbourne some opportunity was given to Australian architects at least to form an opinion on the judgment of the assessors It is apparently, however, not

proposed to hold any further exhibition of the designs in London, as was at one time proposed.

The design recommended in the Minority Report, and since purchased by the Commonwealth Government, is by Messrs. W. Scott Griffiths, R. C. Coulter, and C. Caswell, of Sydney, and has as its main features the Parliament House situated on the lower slope of Kurrajong known as Camp Hill, and surrounded somewhat as in the other designs by the various public departmental offices. A large lake is provided, occupying in all about two square miles, and the streets, although still formal in character, are much more unsymmetrical and arranged to follow approximately the contours of the land, although the author evidently strives for a more regular geometrical design wherever the levels will permit. This design, however, bears evidence of considerable care being given to the levels.

The Commonwealth authorities would do well, too, to consider the question of possible land speculation very carefully. The earlier years of the City of Washington are stated to have been very much hampered by speculators, who bought up all available land and held it up at high prices, thus greatly retarding the growth of the young city.

The community, as themselves the owners, will in this new city have a great opportunity of keeping absolute control of the building and growth of the city, and, if they are wise, they will not lightly let out of their control by sale or otherwise the powers which they at present possess.

KING EDWARD STATUE, ABERDEEN.

AFTER two years spent in endeavouring to find a ready-made site for the memorial statue to King Edward the Town Council of Aberdeen has at last decided on a position at the junction of Union-street and Union Terrace-gardens, which will cost the Council some 1,000*l.* to prepare. This preparation will include the removal of the present statue of Prince Albert to a destination which seems to be at present undetermined.

Although objections were raised to the position as such, the principal opposition appears to have been on the score of expense. One Councillor considered that it was out of all proportion that the town should be called upon to pay 1,000*l.* simply to provide a site for this statue, however notable a work of art it might be; while another remarked that "it never struck him for a moment that any site provided by the town would have to be prepared by the town for the reception of the statue." Just so. It never does seem to strike people that ready-made sites are not always to be found for whatever type of monument they may wish to erect, or that, if the ideal site should be found, without the expense of preparation, it is by the merest chance. The same fruitless search occurred in London with reference to the same subject. But, although a site was at last obtained which reduced the cost of preparation to a minimum, it can hardly be considered ideal, as was pointed out in these columns at the time, and we are glad to note it has finally been abandoned.

It is not necessary to insist on the obvious fact that a monument cannot be dumped down in any odd corner of spare space that may happen to be discovered without making any attempt to relate it to its surroundings. It would be as well, therefore, that committees and others who promote such monuments should realise that the cost of the monument itself is not he only cost that will be incurred. Whether it should be incurred by the promoters of the monument or by the town which provides the site is a question which appears to have agitated the Council at Aberdeen. This might be considered merely a matter of convenience, but, at the same time, it appears to raise a question of principle and to draw attention to our illogical methods of procedure in such cases, for we seem to have heard of town memorials, or even of national memorials, which are not officially promoted by the whole town or by the whole nation.

If a monument is promoted by the town, as a town, the whole cost of such monument and site should surely be paid for out of the town funds. If, however, it is being promoted by a group of interested and possibly representative individuals, receiving subscriptions from other interested individuals, the whole of the cost should surely be defrayed out of the subscriptions raised for the purpose. In the latter case no pretence need then be made that the result is in any way a town or a national memorial, except in so far as it may be said to express the sentiments of the general body of the public who might be quite willing to accept their share of the credit attached to the erection of a memorial, but not so willing to pay their share of its cost. Had one or other of these methods been followed at Aberdeen, a Councillor would not have felt moved to complain that "they had never been consulted as a Council and were now called upon to provide 1,000*l.* out of the common good for the people who promoted the statue." If Aberdeen, as a town, is to get the credit, there should be no cause of complaint; but in any event it should be better to so organise the erection of our monuments that such a question should not arise.

THE WESTERN APPROACH ROAD.

A SUGGESTED modification to the proposed new by-pass round Brentford, to which we have already referred in a "Note," has recently been brought forward. Many advantages are claimed for this modification. By leaving Chiswick High-road at the foot of Gunnersbury-lane, the new road certainly gains a great advantage by avoiding the tram crossings at Kew Bridge, but, on the other hand, it may not be so convenient for east-bound traffic wishing to cross the bridge, as is the proposal by the Road Board, to take the bridge as a starting-point. However, unless a main road is contemplated from Kew Bridge to Putney, so giving access and diverting traffic to the south of London, that objection does not seem very serious, and in any event it would be quite easy to construct a spur road if found necessary. It is also claimed that by joining the main road at Pears' Fountain by Spring Grove much has been done to meet the objection of the Brentford Council that the by-pass will ignore the High-street. It provides a more direct route to the Staines-road and the Hanworth-road, which latter would become the best route from Hyde Park Corner to Kempton Park, and so to Weybridge, Chertsey, and Woking. A spur street from Syon-lane to Busch Corner should provide better intercommunication between Twickenham and Harrow.

This scheme certainly appears to preserve the main advantages of that prepared by the Road Board, and is of interest as showing modifications suggested by knowledge of local sentiment.

Put forward, we understand, by the Heston and Isleworth Urban District Council and approved by the Road Board, it now awaits the sanction of the Brentford Urban District Council and the Middlesex County Council. It will be interesting to see what attitude the Brentford Council take up. At present they appear to object to any by-pass at all, for the same reason as was put forward at Croydon. The resolution proposed at a recent meeting to oppose any scheme other than the widening of the High-street suggests an attitude of uncompromising hostility; but the final resolution to take no action until a scheme was submitted will give time for further reflection. There seems no doubt whatever that the by-pass is the best solution of such problems as this when looked at from the point of view of the county as a whole. The endeavour should be to so arrange it as to confer benefits on the district involved, which should be in proportion to the amount the district contributes to the cost of the improvement. No doubt this consideration has been borne in mind.

HOUSING SCHEME, MONTACUTE, SOMERSET.

AT a joint district meeting of the Institution of Municipal Engineers recently held at Exeter particulars were given by Mr. L. Caplen of a scheme recently completed at Montacute, Somerset, by the Yeovil Rural District Council, from which we extract the following details:—

The houses are built in two blocks of six each, with Ham Hill stone for all external walls. With the exception of the end houses, each has a frontage of 15 ft. and depth of 24 ft. 4 in.; all internal walls are of brickwork. The stonework is of uncoursed rubble, rough axed, and set in lime mortar. All main angles are formed in large, roughly-squared quoin stones, and the whole pointed up stone colour.

The roof spans from front to back, and is hipped at each end of the blocks. The covering consists of patent "Eternit" roofing slates, laid in diagonal pattern.

The accommodation is as follows:—

Ground Floor.—Living-room, 11 ft. 4 in. by 14 ft., cupboard under stairs; scullery, 10 ft. 6 in. by 7 ft.; larder, coal store, and water-closet. Each living-room has a combination cooking range and boiling copper fitted. Baths and sinks are fitted to sculleries, concrete paving to back of each house, and asphalt paths from the road to front doors.

First Floor.—Three bedrooms, partially in the roof, with dormer windows; two bedrooms have fireplaces. All windows are casements, and woodwork is treated with "Solignum."

The cost of the scheme is set out below, and it will be seen that, with a rental of 3s. 9d. per week per house, it is an entirely self-supporting one.

The Council had numerous applications for the houses, which were let immediately on completion.

COST OF HOUSES.	£.	s.	d.
Land, 4,000 sq. yds.	110	0	0
Architects' fees (agreed)	27	0	0
Compensation to tenant of land	5	0	0
Stamping of bond, contract, and agreement	2	6	8
Advertising	2	15	0
Redemption of land tax	1	7	6
Public Works Loan Board charges	29	10	0
Contract for houses	1,534	0	0
Contract for boundary wall	85	0	0
Front wall, paths, etc.	17	10	0*
Bill of costs (conveyances, etc.)	21	0	0
Extras	1	0	0
Total	£1,827	9	2

Excess over loan, £5 19s. 2d. Cost per house, say, £152.

COST OF UPKEEP.	£	s.	d.
Repayment of principal and interest at 4 per cent. on loan of £1,776	71	0	9½
Do. if excess over loan of £51 9s. 2d. is borrowed	2	1	2
Rates—£7 per house gross, £6 rateable at 5s. 4d. in £ = £19 4s.; less 30 per cent. reduction (£5 15s. 2½d.)†	13	8	9½
Water rate, 2d. per house per week	5	4	0
Income property tax, less rebate in consideration of interest paid to Public Works Loan Board	2	15	0
Insurance of houses, £1,000 at 1s. 6d. per cent.	0	15	0
Collection of rents, at 2 per cent. on £117	2	6	9½
Repairs, 10 per cent. on gross rental	11	14	0
Allowance for voids, arrears, etc., two weeks' rent per house per year	4	10	0
Collectors' books, stationery, etc.	1	0	0
Total	£114	15	6½

Gross rental at 3s. 9d. per week, £117.
Balance in favour of Council, £2 4s. 5½d.

Messrs. Petter & Warren, of Yeovil, were the architects.

TOWN PLANNING SCHEME, ACTON.

AT the last meeting of the Acton Town Planning Committee the Clerk and Surveyor submitted a joint Report, giving information for the purpose of enabling the Local Government Board to consider the application of the Council to prepare a town-planning scheme. At present the scheme only deals with the position of future main roads over undeveloped land, and, in the Report, four of these are mentioned:—(1) The continuation of Noel-road as a 50-ft. road to Hangar-lane, a bridge 45 ft. wide to be erected at the expense of the Great Western Railway, where the proposed road crosses the Ealing and Shepherd's Bush extension; (2) the extension of Twyford-avenue to join Noel-road and its continuation to Coronation-road; (3) a new 50-ft. road from Edward-road to Harlesden Canal Bridge, with a 40-ft. to 50-ft. branch road to Victoria-road; (4) a new 55-ft. road from Acton Vale to a proposed church site on the Goldsmiths' Company Estate, with a 45-ft. branch road to the west-end of East Acton Green, and another 45-ft. branch road to Old Oak-lane, by the eastern end of Acton Green. The reasons why the Council's application should be supported are given as:—(1) The past development of the district has been very haphazard, and not to the best interests of the inhabitants; (2) houses have been crowded so close together in some areas as to constitute a menace to the health of the persons residing therein; (3) estates have been laid out independently without connecting roads, resulting in an excessive number of cul-de-sac streets; (4) the existing powers of the Council to prevent a repetition of these evils are limited, and that future development should be on some ordered plan with through roads and no overcrowded areas. It is not proposed to alter any building

* Half cost of work, as District Council effected a considerable road widening opposite houses by taking portion of site.

† Reduction obtained, as rates are to be paid whether houses are empty or not.

included in the scheme for the purpose of carrying the scheme into effect. The approximate cost of the works is put at 15,000*l.* At this meeting also a letter was received from the Local Government Board, stating that, so far as they were able to gather, the question as to whether a town-planning scheme should be proceeded with would depend upon the sufficiency of 75*l.* to meet the expenses of the Council throughout all stages of the scheme. The position thus created, the Board state, would be unfair to those interested in the scheme, and in the circumstances they could not see their way to take steps with a view to authority being given to prepare a scheme so long as the limit of expenditure was retained. It was decided to rescind the resolution as to this 75*l.*, and the original resolution passed by the Committee was agreed to.

CIVIC DESIGN NOTES.

French Workmen's Co-operation. We wish every success to the bold co-operative scheme which is shortly to be started by some 400 French workmen. They have purchased for 24,000*l.* the Château de Deaveil, in the Seine et Oise, and intend to erect 400 dwellings in the park, while preserving its more attractive features as open spaces for the benefit of the whole community. The Château itself will be turned into a club-house and its outbuildings into restaurant and workshops.

Municipal Land Ownership. "Undoubtedly the best way to enable any municipality to deal effectually with the housing problem and the growth of the town is to encourage it in the direction of land purchase. Every municipality should buy up the agricultural land within its boundaries and all it can secure outside of its boundaries within a reasonable radius of its centre. This policy would secure to the municipality that increase in the value of the land which automatically accrues as the town extends and the land becomes building land. This would prevent speculation in land and prevent the value being raised when required for public purposes. Further, this municipal ownership of land would endow the Corporation with absolute powers, for, of course, they can do what they like with their own. Trades, manufactures, buildings, streets, quantity and quality, all would be subject to the control of the local authority, which would be able to provide land cheaply for open spaces, parks, playgrounds, and, above all, for decent houses for its people. Indirectly, any such policy would be highly economical, as any loss there might be in purchasing agricultural land in advance of needs would be abundantly compensated by the saving of the enormous cost of demolition, rehousing, street improvements, and so forth, always certain to be incurred in a city left to grow as it pleases."—(Chairman of Liverpool Housing Committee, in the *Morning Post.*)

Paris Improvement Scheme. It is reported from Paris that negotiations will shortly be concluded between the State and the Civic authorities whereby the City of Paris will purchase the fortifications and the adjoining glacis some 500 yds. wide. In this event the city would probably sell the site of the actual fortifications for building purposes, and with the money so obtained lay out the glacis as parks and playing-fields, thus creating a green ring round the city of some 20 miles in total circumference. This is a suggestion of the first importance, an idea worthy of Paris. We hope the negotiations will be brought to a successful issue, and that we shall soon have an opportunity to see how Paris deals with so magnificent an opportunity to enhance still further the reputations of the finest of modern cities.

New York Civic Centre. Improvement schemes appear to be on foot in connexion with the building of the New York County Court House, which may eventually develop into a civic centre. A competition is now in hand for the County Court, which, it is stated, will cost some 6,000,000*l.*, and it is hoped that it will eventually be surrounded by the Federal Courts, the new Criminal Courts, and a down-town Post Office. The neighbourhood is much in need of improvement, and it is understood that the authorities will immediately take the matter up and act energetically

The Press and Slum Areas. The Special Correspondent of the *Daily News and Leader* is doing good service to the cause of housing reform by his articles on the conditions to be found in many of our old provincial towns. Shrewsbury and Poole are two that have lately come under his notice, and the conditions he discloses are such as no self-respecting community should tolerate. It is a commonplace of complaint that local authorities will not voluntarily and eagerly avail themselves of the powers already placed in their hands. If permissive legislation cannot deal with the situation, compulsory legislation must be tried. It is to be hoped, in the meanwhile, however, that the efforts of the Press may succeed in awakening local authorities to a sense of their responsibility to the nation in this respect.

Housing Scheme at Hemel Hempstead. At the last meeting of the Hemel Hempstead Town Council the Sanitary Committee reported having carefully considered the question of proceeding with a housing scheme in view of the Council's decision to purchase a portion of the Wood Farm Estate from the County Council. They are of opinion that it is desirable to proceed with the preparation of a scheme for the erection of twenty-five cottages with a frontage to Wood-lane, and that such cottages should be of a size to let at a rental of 5s. 6d. a week. The Committee recommended that they be authorised to invite competitive designs for carrying out the proposed scheme. Mr. Chennells pressed the Committee not to be too hasty about their housing scheme. At Chipperfield the Rural District Council had built a row of barracks, for they could not be called anything else for their appearance. They were discreditable to the neighbourhood. He believed that there were seven barracks in the row, and the authority had only been able to let two of them. The Report was agreed to.

New Mining Village in Fife. What is described as "a model village on thorough garden-city lines" is being promoted at Valleyfield, near Culross, by the Fife Coal Company for the use of the workers in the Valleyfield mines. The estate lies pleasantly on high ground overlooking the Firth of Forth, and the village is to be built on a field which formed the policies of the old house of Valleyfield, which for centuries was owned by the Preston family. From the highway to the old house a main road 60 ft. wide is being laid out, upon which shops and other business premises will be situated. On either side of this main avenue crescents will branch out which will contain one-story cottages in blocks of twenty-four each. A tenth of an acre of ground will be provided at the back of each cottage, which will also have a fenced plot at the front for a flower-garden. The cottages are to be spaced seven to the acre, water will be laid on, and bathrooms provided for the three-roomed cottages.

Town Planning in Midlothian. The Local Government Board for Scotland has recently held an inquiry at the County Rooms, Edinburgh, in connexion with an application by the local authority of the Suburban District of Midlothian for authority to prepare a town-planning scheme for Corstorphine district. The City of Edinburgh, of which Corstorphine is really a suburb, favoured a joint scheme, but appeared to be satisfied with an assurance that the County would consult the City with regard to the preparation of the scheme.

Cheap Housing Problem in France. In a Report on the economic development of France in 1910-11 by Mr. William Gastrell, British Consul-General at Paris, it is mentioned that three laws of 1894, 1900, and 1906 regulate the building of cheap houses for the working population, and companies working under them have to submit their statutes to the Minister of Labour for approval. There were 307 such companies in 1910 as compared with only fifty some sixteen years ago. They enjoy special exemption from taxation, amounting to over 16,437*l.* The 1906 law authorised the Government officials in the provinces to assist in various ways any efforts to build cheap accommodation, but this privilege does not appear to have been used as largely as it was expected to be. In Paris the municipal authorities sold lands for such purposes at exceedingly low valuations, and special efforts have in recent years been made in supplying more reasonable accommodation to the poorer working-classes on account of the general rise in the cost of living in France which has pressed so hardly upon them. The Government have recently drawn up a draft law, which is now under consideration, empowering the municipal authorities to make special arrangements for the building of cheap lodgings for workpeople. The Paris municipal authorities also recently took a remarkable step by voting a loan of 8,000,000*l.* in order to assist the building of cheap lodgings for the working population. The causes of the rise in rents all over France, but especially in Paris, more particularly in the year just past, include (*a*) the rapid increase in the population of Paris and its suburbs in the last five years; (*b*) the rise in the cost of actual building, which is said to have increased by at least 25 to 30 per cent.; and (*c*) the general increase in the cost of production of many necessary articles of consumption. The Paris municipal authorities, in connexion with the loan of 8,000,000*l.*, stipulated, among other things, that the price of the lodgings was not to exceed the maximum laid down by the law of 1906, and was not to be fixed lower than:—(1) for families with at least three children, 16*l.* for four rooms, 13*l.* 6s. for three rooms, and 9*l.* 6s. 8d. for two rooms; (2) for families with more than three children, 12*l.* for four rooms and 10*l.* for three rooms.

A New York Pantheon. A big scheme is contemplated in New York, Columbia University having in contemplation the erection of a great amphitheatre on the block between One-hundred-and-sixteen and One-hundred-and-twenty streets, this adjoining the proposed Fulton memorial and watergate, plans for which have recently been submitted in competition. It is now suggested that with this scheme should be combined another—that of the erection of a great Memorial Hall to serve as an American Pantheon, in whose colonnades could be placed memorials to illustrious Americans. The joint Committee considering the matter is composed of Commissioner Stover, representing the City; H. Van Buren Magonigle, of the Robert Fulton Memorial Association; and Architects Palmer and Hanbostel, Columbia University; and, as a result of the first meeting, it was decided to alter the plans prepared by the University and Memorial Association, and prepare a new Bill to be sent up to Albany for the combined scheme. It is proposed that the new Stadium should seat 80,000, and the approach from the waterfront to the Stadium should be built in a crescent form. Evidently the ultimate scheme arrived at will be one of unusual magnitude even in America.

Co-partnership at Eltham. We are glad to see that Clare College, Cambridge, is following the example of King's College, Cambridge, in proposing to lay out its estate at Eltham on reasonable town-planning or garden-suburb lines. It is proposed to form a Co-partnership Tenant Society to deal with some 27½ acres of land, about 9 miles from London Bridge and only a few minutes' walk from a railway-station. It is intended to devote about 5½ acres to roads and open spaces, leaving about 22 acres for houses, which would be laid out at ten to the acre. The size of the estate not being sufficient for a mixed type of suburb, it will be developed as a working-class neighbourhood. If Garden City, Ltd., will purchase 3½ acres now at 300*l.* per acre, the College is prepared to grant this Society an option to purchase the remaining 24 acres in four blocks of 6 acres each at the same price plus 4 per cent. per annum for each year after the first. The development of the whole estate would cost some 69,000*l.*, of which 46,000*l.* could be obtained by loan.

Civic Art and Landscape Architecture, Australia. Mr. T. H. Mawson, Hon. A.R.I.B.A., and Special Lecturer upon Landscape Design, Liverpool University, has been appointed City Planning Expert by the City Council of Calgary, and in the course of next summer will go out to Australia, where, under the auspices of Melbourne and Sydney Universities, he will deliver lectures upon "Civic Art and Landscape Architecture."

THE BUILDING TRADE.

SIR H. H. BARTLETT, BART.

THE many friends of Mr. H. H. Bartlett, of the firm of Messrs. Perry & Co., contractors, of Tredegar Works, Bow, E., will have read with pleasure his name in the list of new baronets in the New Year's list of honours, and with their congratulations to him and the important industry he represents, upon a deserved distinction, we should like to be associated. Sir H. H. Bartlett was President of the Institute of Builders in 1892-3 and President of the London Master Builders' Association in 1888. His firm has carried out a large number of important works, including the Bakerloo Railway and the Piccadilly Hotel, and they are now engaged on a large contract at Tilbury Docks; while the new baronet has personally superintended the building of the new south station at Waterloo Station, Euston Station, etc. Other contractors have been similarly honoured in recognition of their work, but none have more thoroughly deserved this distinction, which will be very popular in the building trade, where Sir H. H. Bartlett has many friends and is held in the highest esteem.

MECHANICAL HAULAGE.

AT a meeting of the Institution of Municipal Engineers (Northern District) held at the Town Hall, Newcastle-on-Tyne, on November 23, a short paper was read by Mr. George Symon, Engineer and Surveyor to the Urban District Council of Blaydon, on "Mechanical Haulage." In the course of his remarks he said :—

"One of the heaviest items of expenditure in connexion with our work is the cost of conveying materials; this is especially so in the case of road and street work, and also in connexion with such items as new sewage disposal works, etc.

During the summer of 1905 the Urban Council of Blaydon, after numerous inquiries by me and some exhaustive reports thereon, decided to purchase a steam motor, and proceeded to do so, the results of which I now propose to describe to you. I will first, however, give a brief desciption of our district and the reasons for this somewhat unusual departure from the ordinary routine.

The Blaydon District has an area of 9,314 acres and a population of 31,148. Its ratable value is for poor-rate 110,074*l.* and general district rate 90,183*l.* There are nine and a half miles of main roads and thirty-seven and a half of district roads, besides streets and public footpaths. The traffic on the majority of the roads is heavy; that on the main roads may properly be described as very heavy, and, like everywhere else, is tending to increase. On the Council coming into existence in the year 1895 they found a legacy of neglect awaiting them. This applies with peculiar emphasis to the state of the roads, which were in a truly deplorable condition.

The district being a coal-bearing one throughout, and there being thus no igneous or other rocks suitable for use as road metal to be found, or, at least, not in reasonable get-at-able positions, practically the whole of the metal required for the construction of the roads (they had to be constructed, as the existing roads consisted practically of long, narrow spaces, having little or no metal upon them) had to be brought by rail or by water, and, many of the roads being a considerable distance from railway depôts, the cost of carting was heavy, as much as 4*s.* per ton being paid for that item alone, hence the reason for searching around for some possibly cheaper mode of conveyance than that of team labour. The motor that they ultimately decided—after many inquiries and comparisons—to purchase was a steam-cart. Among the reasons which influenced the decision arrived at are the following, viz. :—

1. It is a cart as distinguished from a trolley.
2. It is made to tip.
3. It can be turned completely in a circle of 36 ft. outside diameter, or by manœuvring on a road 20 ft. in width.
4. The lowest part of its body is 11 in. clear of the road under it.
5. Its extreme length is 14 ft.
6. Its extreme height is 8 ft.
7. Its extreme width is 6 ft. 7 in.
8. Its extreme weight in working order is 4 tons 19 cwt.—this includes steam up on a full boiler—

	Cwt.
Then water-tanks (100 gallons)	9
Fuel (chiefly coke) about	3
	12

cwt. more, or a total of 5 tons 11 cwt. without a load.

9. It has a range of action of 6 miles.
10. The diameter of travelling wheels is—back, 3 ft. 11 in. ; front, 2 ft. 9 in.
11. The width of the travelling wheels is—back, 10 in. ; front, 5½ in.
12. It was constructed so as to comply with the Highways Locomotive and other Acts and Local Government Board Regulations in force at that time.
13. It can carry a load of 5 tons on a gradient of one in seven.
14. It could also pull a trailer carrying 2½ tons in addition when on fairly level roads.
15. It can travel 5 miles per hour on high gear.
16. It can travel 2½ miles per hour on low gear.
17. It can travel either backwards or forwards on either gear.
18. The fly-wheel can be used for transmitting power by means of a belt, its diameter being 2 ft. 6 in. by 4½ in. width of face, the number of revolutions per minute being from 200 to 300.

It has been found that it not only conveys materials cheaper than the same could be done by team labour, but that less damage is done to the roads by its use than if the same materials were to be carried thereon by ordinary team labour.

We find that there is little if any difference in cost as between the motor and ordinary team labour when the distance traversed does not exceed one mile. In travelling long distances or up steep hills the motor shows a distinct advantage.

It had to be re-tyred in the year 1909, with the result that on that year's working we had a loss of 25*l.* 13*s.* 7½*d.* That was the only year during which no profit was made.

Being anxious to know the exact financial results of this venture, I had a set of forms prepared upon which to keep careful daily, monthly, and yearly records as to the time spent upon and cost of lighting up, travelling to work, and actually at work, as well as quantities and cost of fuel, oil, etc., used.

After a close observation of this kind for six years I find that there has been a net gain during that time of 23*5l.* 1*s.* 3½*d.*, as per the tabular statement below, which gives fairly full particulars as to earnings and the various items of expenditure.

The figures given in respect of earnings are arrived at by taking as a basis the cost of carrying the same material by team labour on piecework, which again is based on the net value of labour of one horse, cart, and man at 1*s.* per hour. The sum of 77*l.* 15*s.* 7*d.* is deducted from the earnings annually, that being the payment necessary to liquidate the original cost of the cart *plus* 3½ per cent. interest, spread over a term of seven and a half years, being the assumed period of life of the cart. The amount allowed is thus equal to 13½ per cent. per annum for depreciation."

HOARDINGS AND THE LAW.

ONE of the necessary incidents to a building contract of any magnitude is the erection of a hoarding. It is necessary for the protection of the property of those who are engaged in building operations, and it is also necessary for the protection of the public using the highway adjoining a building in the course of erection.

There have been a number of cases reported in which points relating to hoardings have been considered. For instance, in 1883 the question whether a hoarding is a building came up for consideration. Upon this point there has been a conflict of opinion. In Pocock *v.* Gilham (1883, I. Cab. & E. 104) the lessee of a house and premises covenanted not to erect any building or erection on any part of the premises without the lessor's written licence. Subsequently, the lessee erected a wooden hoarding against the side of the house for advertising purposes. The lessor sought, and Mr. Justice Mathew granted, an injunction against the lessee.

In the later case of Foster *v.* Frazer (1893, 57 J. P. 646) Mr. Justice Kekewich appears to have arrived at a different conclusion. In that case the defendant purchased in 1869 from the owner in fee a portion of a residential estate subject to a covenant that the buildings erected thereon should be of a prescribed height, have a cemented front and a slated roof. In June, 1892, he erected a wooden hoarding varying in height from 8 ft. to 14 ft., for use as an advertising station. In an action on the covenant and for an injunction the chief question was

BLAYDON URBAN DISTRICT COUNCIL. STATEMENT SHOWING EXPENDITURE AND EARNINGS OF STEAM CART.

(The price of the cart was 475*l.* 11*s.* 10*d.* cash.)

Year Jan. to Dec.	Renewals.	Maintenance.	Raising Steam.	Travelling.	Hired Work.	Insurance.	Wages.	Total Expenditure.	Earnings	Difference Gross Gain.	Net Gain (+) or Loss (−)*
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1906	5 18 4	71 14 7	15 8 11½	19 4 2½	—	1 10 0	130 19 7½	244 15 8½	383 9 9	138 14 0½	60 18 5½ +
1907	1 15 10	84 2 3	20 19 1½	20 7 8½	1 8 1½	1 10 0	124 5 9	254 8 9½	393 13 11½	139 5 2	61 9 7 +
1908	1 8 6	93 11 10	15 9 9½	16 14 8½	—	1 10 0	118 15 4	247 10 2½	359 12 6	112 2 3½	34 6 8½ +
1909	17 7 11	145 3 2½	12 16 6½	15 8 3	—	1 10 0	109 14 10½	302 0 9½	332 12 9	30 11 11½	27 3 7½ −
1910	6 1 1	111 19 6½	13 14 3½	16 0 9	—	1 10 0	113 2 4½	262 8 0½	356 5 5½	93 17 4½	16 1 9½ +
1911	10 12 0	94 5 11½	14 15 6	28 6 5½	4 10 0	1 10 0	133 11 10½	286 11 9	428 2 1	141 10 4	63 14 8 +
(Yrs. 6)	43 3 8	600 17 4½	92 4 3	116 2 1½	5 18 1½	9 0 0	730 9 9½	1,597 15 4	2,273 16 6	676 1 2	235 1 3½ +
Average	7 3 10½	100 2 10½	15 7 4½	19 7 0½	19 8½	1 10 0	121 14 11½	266 5 10½	378 19 5	112 13 6½	39 3 6½ +

* An annual sum of 77*l.* 15*s.* 7*d.* is deducted, being an instalment of price + 3½ per cent., the payment being spread over a period of seven years.

N.B.—The cost of water used is not included in the above : the water used, if paid for at the rate of 1*s.* per 1,000 gallons, would be approximately one halfpenny per hour.

whether the hoarding was a building within the meaning of the covenant, and Mr. Justice Kekewich held that the erection of the hoarding was not a breach of the covenant.

The explanation of this discrepancy between the two cases appears to be that, if there is a covenant not to build any building on a piece of land, the erection of a hoarding will be illegal; but if the covenant is not to build a building unless it be a building of a certain kind, it does not prohibit the erection of a hoarding. Mr. Justice Kekewich said, in Foster *v.* Frazer (*supra*):—"The meaning of the covenant seems to be this, that if you erect a building, such as a house, then it must be a house of a certain character. In my opinion the covenant does not relate to anything which cannot have a front or a roof, and it would be pushing the language of the covenant too far to say that it applies to a hoarding. I hold, therefore, that the words of the covenant do not point to anything of the kind, and that such a hoarding as this is not a 'building' within the meaning of the covenant."

When a building is in the course of erection it may be that the erection of the hoarding will be a source of nuisance and annoyance to the neighbours. Where, however, the erection is set up by the licence of the proper local authority, it will not be easy to establish a claim for nuisance. Thus in Bradbree *v.* Christ's Hospital (1842, 11 L. J. C. P. 209), the defendants, with a view to rebuilding, erected a hoarding in front of their premises, obstructing the approach to the adjoining house, and subsequently pulled down their premises and erected a new building. The adjoining owner brought an action for damages, alleging that, owing to the unreasonable delay in the building operations, the obstruction by the hoarding was continued for a long and unreasonable time, and customers were prevented thereby from entering the plaintiff's shop; and negligence in the work of demolition, by reason of which building materials in large quantities fell, breaking the plaintiff's skylights and damaging his goods, and negligence in excavating, underpinning, and shoring-up, whereby the plaintiff's premises were damaged. It was held that the Lord Mayor's licence and custom were a sufficient answer to the claim in respect of the hoarding, and that the defendants had no right to underpin the party wall, either partially or wholly, unless that could be done without injuring the plaintiff's house.

It has been decided in several cases that a hoarding which is used for advertising purposes is liable to be rated.

YORK MASTER BUILDERS' AND CONTRACTORS' ASSOCIATION.

THE annual general meeting of this Association took place at the Old George Hotel recently, Mr. W. E. Biscomb presiding. After the minutes had been read and confirmed, the President, on behalf of the members, presented the Secretary, Mr. J. Hague, with an oak bureau bookcase on the occasion of his marriage.

The Treasurer, Mr. Charles Dent, presented his financial statement and balance-sheet, from which it appeared there was a balance in hand on the year's working.

Councillor J. Hardgrave, J.P., was elected President for the ensuing year, and in his address to the members outlined the policy for the coming year and asked for the support and attendance of members during the year.

Mr. W. E. Biscomb, on vacating the Chair, was thanked for his work during the two years of office, and also for his labours during the five preceding years, when he had ably filled the office of Vice-President and been indefatigable in his efforts on behalf of the Association.

Mr. Charles Dent was elected Vice-President and Mr. George Turner was elected Treasurer.

The following Past-Presidents were elected ex-officio members of the Executive Committee:—Alderman James Birch, J.P., Councillor George Sharp, and Mr. W. E. Biscomb.

The following were elected on the Executive Committee:—Councillors W. H. Birch and F. W. Hibbett and Messrs. J. Bellerby, W. J. Bellerby, J. W. Biscomb, T. Belt, H. Colman, T. F. Clark, R. Dent, H. Hopkins, H. Harrison, J. Fairweather, W. Mansfield, G. Rawling, A. T. Pearson, C. Martin, A. J. Warrillow, and L. Wray.

The Secretary, Mr. J. Hague, was re-elected.

Representatives to the Yorkshire Federation of Building Trade Employers were Councillor J. Hardgrave, J.P., Messrs. C. Dent, G. Turner, and W. E. Biscomb.

Representatives to the National Federation meetings were the President and Vice-President.

Mr. T. Belt was re-appointed auditor.

The Annual Report showed that much good work had been done on behalf of the trade during the past year, and that the usual friendly relations with the operative societies had been well maintained.

It was decided that the Association should send representatives to the proposed Traders' Council for the city of York.

ABERDEEN BUILDING TRADE.

TRADE in Aberdeen, viewed generally, has been fairly good in 1912. In only one department has there been a decided set-back—viz., building. The official statistics furnished by the Burgh Surveyor show that it is upwards of twenty years since the number of erections was so small as it has been in the year now closed. In 1908 it was thought bottom had been touched, when the estimated value of the property built fell to 91,272*l*. For 1912 the total is much less—only 85,746*l*., or 15,526*l*. under the lowest for the past decade. Amongst those connected with the building trade, therefore, the year has been a quiet one. About 200 men were engaged in this department—about the same as in 1911. The only big job on hand has been the extensions at Grandholm tweed mills. An increase of ½d. per hour was granted by the employers to the workmen. Prospects for the new year are good. The erection of the buildings for the Provincial Committee for the Training of Teachers will, it is expected, be commenced, and will afford work for a considerable time. The estimated cost is 47,000*l*. A start, it is expected, will also be made with the permanent buildings for the Technical College, which are estimated to cost over 100,000*l*. The work at the passenger station will give considerable employment; and there is in prospect also the addition to the library at King's College. In the monumental section of the granite trade a fair average year has been experienced. From the United States there have been rather fewer orders received, but this decrease has been counterbalanced to a certain extent by the increased work from the Canadian market. Though building is, generally speaking, somewhat stagnant at present in England and Scotland, the orders for polished shop fronts continue to furnish a considerable source of employment, and one or two fairly large contracts have been placed this year. The adoption of the price-list by the Masters' Association is regarded by that body generally as satisfactory, inasmuch as it has been useful in keeping rates for work from becoming too low. Like their brethren in the building section, the workers in the monumental department have also obtained an increase of pay of over 2s. per week per man.

A NEW PAINT.

MESSRS. JOHN LINE & SONS, LTD., 14, Alfred-place, W.C., have sent us particulars of a material named "Zinox," an hydrated oxide of zinc, which is claimed to be a substitute for lead paint for inside or outside use. The material was invented by a French engineer named Petit, and a paint expert of Paris, believing in the value of the pigment, introduced it to Messrs. Carlier Frères, manufacturers of linseed and drying oils, etc., who put it on the market. It was not taken up at once, but from the year 1906 it has had considerable use in France and Belgium, where it has been much experimented with, and it appears that "Zinox" surfaces have lasted exceedingly well, and have kept hard and in good condition for some years. As the result of independent tests by the North of France Railway, the whole of sect. 1 of their line, which includes Paris and part of its environs, has been specified to be painted with the material, and the contractor asserts that by using the pigment he makes a farthing per square metre more profit than by using other pigment, although the price of "Zinox" is considerably more. Stress is laid on the anti-porosity of "Zinox," and that for this reason it is suitable for painting ironwork. An experiment was made by a leading contractor of Paris on behalf of the Compagnie du Chemin de Fer du Nord, as a result of which, we are informed, the railway company since that time has adopted "Zinox" as the base for all its paint work.

We may add that Messrs. John Line & Sons, after examination of the claim put forward by the manufacturers of the material, secured what amounts to the sole selling rights to the building and decorating trades in England and Wales.

THE BUILDING TRADE IN LEEDS.

IN considering the state of the building trade, it is necessary, as was pointed out by a Leeds authority on the subject in conversation with a *Yorkshire Post* representative, to regard it from two points of view—that of contract work and that of the speculative builder, the first being generally regarded as the more important. It so happens that in neither branch for the last four or five years has there been an abundance of work. Some say emphatically that Leeds is overbuilt, but inquiries tend to show that so far as modern houses are concerned this is not the case. Some little time back it was ascertained that there were roughly 7,000 empty houses in the city, but for the most part, it is said, they were houses of the old type in the centre of the city, or in the nearer suburban districts which have depreciated in value by reason of the number of years they have done duty; because they have cellar kitchens, or because the neighbourhood has "gone down" as a direct result of "colonising" by the Hebrew population. "Beyond dispute," one gentleman connected with the trade remarked, "the number of men engaged in the building trade in Leeds has dwindled to an extraordinary degree during the last five years, and it is due simply and solely to the fact that there has been little or nothing for them to do. Large numbers of skilled men—men of the best type—have emigrated to Canada or other Colonies or America, or else they have transferred their services to other trades. Not only so, but there has been a gradual but very serious reduction in the number of apprentices to the trade—so that there is not only a shortage of good men, but there is a dwindling number of boys coming forward to take the places of those who drop out. It really seems that the building trade has received such a staggering blow that even the lads fight shy of it. I can assure you that at the present moment there is some disquietude in the trade as to where we could get sufficient skilled labour if we were to have the volume of trade which we had in Leeds ten years ago." The Board of Trade returns for the year ended September, 1912, as to the value represented by the building plans approved by the local authorities are interesting. In Yorkshire these returns show that there was an increase on those for the preceding twelve months of 35,859*l*., while the increase in Lancashire and Cheshire was over 680,635*l*., and for the Midland counties 164,920*l*. For the September quarter of 1912 alone the figures are even more startling. During the three months, July, August, and September, 1912, the value of the building plans approved for the whole of Yorkshire was 555,810*l*., as compared with 624,012*l*. for the corresponding quarter of 1911, a decrease of 68,802*l*., or 11 per cent., compared with increases over the same period for Lancashire and Cheshire of 32·8, and for the Midland counties of 36·3. In some towns in Yorkshire the condition of things is improving, but Leeds is authoritatively stated to be well-nigh at the bottom of the class, and it is said, indeed, that had it not been for the building of the Training College and hostels at Headingley the outlook for those engaged in building in the city would have been a forlorn one.

GENERAL BUILDING NEWS.

SCHOOL, FIRTH PARK, SHEFFIELD.

A new Sunday-school has been erected at Firth Park at a cost of about 1,650*l*. from plans prepared by Messrs. Chapman & Jenkinson, architects. The large hall in the building will seat about 400.

SCHOOL BUILDING, GLAMORGANSHIRE.

Plans have been approved for the erection of several new schools by the Glamorgan Education Committee, including one for girls at Ogmore Vale, one for boys at Brithdir, one for girls at Ystradmynach, one for infants at Nantymoel, and one for infants at Taffs Well, all of which are designed by the County Architect, Mr. D. Pugh-Jones, Cardiff.

UNIVERSITY EXTENSIONS, LEEDS.

Mr. Paul Waterhouse, F.R.I.B.A., M.A., of London, is the architect for the additions to the University of Leeds. The new buildings, consisting of two stories, will occupy a situation between the main entrance to the University and the block containing the chemistry department. The upper floor will contain the education department and additional rooms for the chemistry department. The contractor is Mr. Paul Rhodes, of Leeds, and building work is to commence at once. Mr. Waterhouse and his father were the architects for the existing University buildings.

CINEMATOGRAPH HALL IN DUBLIN.

A new picture palace has been erected in Dame-street, Dublin, by Mr. W. Doyle, of Dublin. The hall was designed by Mr. Francis Bergin, of Dublin, and was opened on December 24.

NEW OPERA HOUSE, DUNFERMLINE.

This new building has been erected from the designs of Mr. J. D. Swanston, architect, of Kirkcaldy, at a cost of about 6,000*l.* The main entrance of the building is through a large crush hall about 25 ft. by 20 ft., and has a terrazzo floor. The seating accommodation is for 2,000, there is 45 ft. of exit from the house, and in the basement a 90-h.p. engine has been installed for the purpose of providing electric light for the theatre.

REBUILDING OF CUMBERLAND LODGE.

The work of rebuilding Cumberland Lodge, Windsor Great Park, the residence of Prince and Princess Christian, has been completed. The contract for rebuilding was secured by Messrs. W. E. Blake, Ltd., London and Plymouth, and amounted to nearly 20,000*l.* During the excavations a number of subterranean passages were found leading in the direction of Big Meadow Lake, also the remains of an old kitchen and bakehouse. New basements have been constructed, and the interior of the house is entirely new and made fireproof by heavy steel frames encased in concrete. The old external walls were shored up and retained, being tied to the new internal structure. Great difficulty was experienced in underpinning the old walls and retaining the picturesque old turrets. The roof is partly slate and partly asphalt, and commodious servants' bedrooms have taken the place of the old attics. The new hall contains an oak staircase, and the walls are panelled with oak and lit by a new stone window. A new secondary staircase has also been erected, formed of concrete encased with wood. A new system of heating and electric lighting has been put in by Messrs. Wellman Brothers, of Windsor, and the elevation of the building towards Bishopsgate has been raised one story. The architect was Mr. John Murry (Crown Architect), and the building work has been carried out under the direction of Mr. W. Tidy, Hampstead, clerk of the works.—*The Times.*

NEW BUILDINGS IN LONDON.

Buildings, Kingsway and Great Queen-street, W.C.; Messrs. William Taylor & Co., builders, Lower Mall, Hammersmith, W. Buildings on site of 296-302, High Holborn, W.C.; Messrs. Jones, Lang, & Co., agents, 3, King-street, Cheapside, E.C. Offices, etc., Kingsway, W.C.; Messrs. White, Druce, & Browne, agents, 9, Brook-street, Hanover-square, W. Buildings, Kingsway, W.C.; Mr. T. H. Kingerlee, builder, Shepherd's Bush, W. Proposed hospital for women (25,000*l.*), Clapham Common, S.W., for the Secretary, South London Hospital for Women. Laundry,-Shoreditch, E. (2,900*l.*), for the Guardians; Mr. F. J. Smith, architect, Parliament-mansions, Victoria-street, S.W. Business premises, Great Portland-street, W.; Mr. R. Angell, architect, 133-135, Regent-street, W. Music-hall, etc., Golder's Green, N.W.; Mr. E. Owers, Finchley-road, Hampstead, N.W. Extensions to Savoy Hotel, Strand, W.C.; Messrs. Colcutt & Hamp, architects, 36, Bloomsbury-square, W.C.

TRADE NEWS.

Messrs. William Potts & Sons, Ltd., clock manufacturers, Leeds and Newcastle-on-Tyne, have received instructions to make and fix a clock, with, generally speaking, all the latest improvements inserted, by the late Lord Grimthorpe, and erect it at the Palace, Bishopthorpe, York. It will strike the hours on the old bell. The same firm are also forwarding a large clock, and new bell for clock to strike upon, to Oporto, and new large illustrated dial to Caistor Parish Church, Lincs, and fixing a new Cambridge quarter-chime clock and bells and four illustrated dials, at Mill-hill Congregational Church, Blackburn, Lancs.

The Heaton New Electric Theatre, Newcastle-on-Tyne, is being ventilated by means of Shorland's patent exhaust roof ventilators and special inlet ventilating panels, supplied by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

THE BUILDING TRADE IN DUNDEE.

WHAT is the reason, asks the *Dundee Evening Telegraph*, while business is generally booming, that the building trade of Dundee is in a condition that, in the circumstances, is far from satisfactory? Compared with the previous year there is a fall in the value of property for which plans have been passed during the twelve months now closed of 35,000*l.*, and the aggregate is the lowest for a period of ten years. No doubt part of the cause—a good deal of the cause—will be found in the fact that there has been almost an entire cessation in the erection of tenement property. In previous years great blocks of tenements have been going up in various parts of the town, and these in the aggregate must have accounted for a considerable part of the total value of the property erected. The demand for this class of property seems meantime to have been supplied. The population is not showing that expansion which might naturally be expected in a city whose business has been thriving for some time past. It is one of the manifest disadvantages of Dundee that it is not in a position to supply labour in sufficient volume and of sufficient variety to occupy its male population. What is wanted to complete the economic equipment of Dundee is a greater variety of well-paid male labour.

NORTHERN COUNTIES BUILDERS' FEDERATION.

THE annual meeting of the Northern Counties Builders' Federation was held at the Golden Lion Hotel, South Shields, when the following officers were elected:—President, Mr. W. T. Weir, Howdon-on-Tyne; Vice-Presidents, Messrs. John Guthrie, Darlington, and John T. Armstrong, South Shields; Hon. Treasurer, Mr. John W. White, Sunderland; Hon. Auditors, Messrs. Percy Bray, Middlesbrough, and Thomas Anderson, South Shields.

An Executive Council was elected as follows:—Messrs. W. T. Weir, John Guthrie, John T. Armstrong, John Proud, Alex. Ross, Fred. W. Ranken, William B. Cooper, Robert J. Huntley, John W. White, G. Douglas, Stephen Easten, W. J. Robertson, W. Foster, R. Johnson, J. Simpson, J. Pelton, T. Brown, H. Doughty, and W. M. Thompson.

The following representatives were elected upon the Council of the National Federation:—Messrs. Stephen Easten, T. Wilkinson, J. W. White (John W. White, Sunderland, is a member ex-officio). On the National Conciliation Board, Messrs. John W. White and John Proud. On the Northern Centre Council, Messrs. Stephen Easten, John Proud, William B. Cooper (J. W. White, ex-officio). On the Northern Centre Conciliation Board, Messrs. Stephen Easten and T. Wilkinson.

BRADFORD MASTER BUILDERS' ASSOCIATION.

THE annual meeting of the Bradford Master Builders' Association was held at the County Hotel, Bridge-street, Bradford, on the 16th ult. Mr. John Moulson, retiring President, in reviewing the work of the Association for the past year, referred to the increases of wages which had been given to the joiners and labourers, and the value of the Building Trades Conciliation Board, in dealing with such and similar applications. Reference was also made to the heavy burden which recent legislation had imposed upon the trade, especially the Insurance Act, involving contributions under both the health and unemployment sections. The Treasurer, Mr. W. F. Farnish, presented a statement of income and expenditure during the year, which was considered very satisfactory. The election of officers for the ensuing year was proceeded with, and the following, amongst others, were made:—President, Mr. W. Pickering; Senior Vice-President, Councillor J. W. Sugden; Junior Vice-President, Mr. E. Smethurst; Treasurer, Mr. W. F. Farnish; auditors, Messrs. A. Hammond and T. Nelson.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERAVON.—Offices, etc., at gasworks (1,450*l.*); Messrs. Jenkins & Fowler, builders, Aberavon.

Aberdeen.—Conversion of houses, Stevenson-street, into offices for the Northern Loan Company, Ltd.; Mr. G. B. Fitchell, architect, 148, Union-street, Aberdeen. Extensions to Ferryhill Works, Albury-road; Messrs. Wilson & Walker, architects, 181A, Union-street, Aberdeen.

Aberystwyth.—Proposed agricultural college (20,000*l.*) for the Governors of the University College of Wales, Aberystwyth.

Alphington (Exeter).—House (2,000*l.*); Mr. E. H. Harbottle, Architect, County-chambers, Queen-street, Exeter.

Alverthorpe.—Proposed church, Alverthorpe-road; Vicar, St. Michael's Church, Alverthorpe.

Armagh.—Proposed dispensary (1,000*l.*) for the Co. Armagh Insurance Committee.

Ashton-under-Lyne.—Proposed hall for the Rev. F. R. C. Hutton, Vicar, Parish Church, Ashton.

Ayr.—Stabling establishment for the Western Meet (2,500*l.*); Mr. Allan Stevenson, architect, 14, Cathcart-street, Ayr.

Barnsley.—Shop and showrooms, Market-street, for the Barnsley British Co-operative Society.

Belleek.—Houses (6,450*l.*); Surveyor, Urban District Council Offices, Belleek.

Belvedere.—Additions to Belvedere Social Workingmen's Club, Bexley-road; the Secretary.

Berwick.—School (10,000*l.*); Mr. G. T. Forrest, architect, Moot Hall, Newcastle-on-Tyne

Blaydon-on-Tyne.—Picture hall; Mr. P. L. Browne, architect, Pearl-buildings, Northumberland-street, Newcastle-on-Tyne.

Blyth.—Stores, Quay-road, for the Blyth Shipbuilding Company, Ltd., Blyth. Drill hall; Messrs. Graham & Hill, architects, Eldon-square, Newcastle.

Brecon (South Wales).—Public library; Mr. B. J. Francis, architect, Brecon.

Burnley.—Schools, Lionel and Cuthbert streets (950 places each); Mr. E. Jones, Education Offices, Burnley. Extensions to Town Hall (10,000*l.*); Mr. W. J. Pickles, Surveyor, Town Hall, Burnley.

Camborne.—Proposed housing scheme; Mr. John R. Hadfield, Surveyor, Urban District Council Offices, Camborne.

Cambridge.—Clinical buildings, Trumpington-street, for the Governors of Addenbrooke's Hospital, Cambridge.

Castleford.—Extensions to Whitwood Mere National School (150 extra places) for the Managers.

Chester.—Proposed housing scheme (8,000*l.*); Mr. W. Matthew Jones, Surveyor, Town Hall, Chester.

Chester-le-Street.—Pavilion at infectious diseases hospital (2,450*l.*); Mr. W. Hall, builder, Derwentwater-road, Gateshead.

Chinley (Stockport).—Offices at Whitehall Mills for Messrs. John Welch & Sons, Ltd., cotton, etc., bleachers, 24, Princess-street, Manchester.

Christchurch.—Laundry at workhouse; Mr. B. Jenkins, builder, 28, Fairfield, Christchurch.

Clarebank (Leith).—Open-air school for the Leith School Board.

Cleethorpes.—School (10,075*l.*); Messrs. Scorer & Gamble, architects, Bank-street-chambers, Lincoln; Messrs. Hewins & Goodhand, builders, Eleanor-street, Great Grimsby.

Clitheroe.—Twenty houses; Mr. A. R. Bleazard, Engineer, Town Hall, Clitheroe.

Cobham.—School (2,621*l.*); Mr. G. Kyle, builder, Church Cobham.

Crumlin (Mon.).—Block of shops and billiard saloon; Mr. A. H. Bowen, architect, Crumlin.

Dairycoates (Hull). — Open-air school (2,175*l.*); Mr. J. H. Hirst, Architect, City Hall, Hull.

Dover.—Additions at St. Martin's School (1,211*l.*); Mr. J. Parsons, builder, Beaconsfield-road, Dover.

Dundee.—Additions to Glebeland's School (600*l.*) for the Dundee School Board.

Durham.—Proposed remodelling of workhouse (6,000*l.*); Mr. H. E. Ferens, Clerk, Guardians' Offices, Durham.

Edinburgh.—Extensions to Ladies' College, Queen-street, for the Edinburgh Merchant Company Education Board. Buildings, Summerhall-square, for the Royal (Dick) Veterinary College. Hall, tower, etc., Polwarth-terrace (4,000*l.*); Messrs. J. Jordan & Son, architects, 12, Castle-street, Edinburgh. Cinema, Baxter's-place (2,000*l.*); Mr. A. E. Horsfield, 88A, George-street, Edinburgh. Extensions to works, St. Andrew's-square, for Messrs. Redpath Brown & Co., constructional engineers (3,000*l.*).

Elland.—Factory (2,200*l.*); Mr. G. Sutcliffe, architect, Heywood, Lancs.

Ellesmere Port.—Picture theatre (4,000*l.*); Mr. H. P. Beckett, architect, Station-road, Ellesmere Port.

Erith.—Alterations to offices, Fibro-Cement Works, Manor-road, for the Fibro-Cement Syndicate, Ltd.; additions to brass foundry for Messrs. Vickers, Ltd., ordnance manufacturers; alterations to "King's Head" and "Rose and Crown," Bexley-road, for Messrs. Truman, Hanbury, Buxton, & Co., Ltd., brewers, Brick-lane, E.

Exeter.—Isolation hospital (3,000*l.*); Mr. T. Moulding, Surveyor, Town Hall, Exeter.

Ferryhill.—Fire-station; Mr. T. Stephenson, builder, Ferryhill. Picture hall (2,000*l.*); Mr. J. Hunter, Bishop Auckland.

Fifeshire. — Extensions to St. Manair's Harbour (3,000*l.*); Messrs. D. & C. Stevenson, civil engineers, Edinburgh.

Fishergate. — Proposed school; Mr. L. Thompson, West Sussex Education Offices, Horsham.

Forest of Dean.—Memorial hospital; Mr. J. C. Tregellis, architect, 126, Bishopsgate, E.C.

Forfar.—Cinema theatre (2,000*l.*); Messrs. Gavin & Soutar, architects, 42, East High-street, Forfar.

*See also our list of Competitions, Contracts, etc., on another page.

Gillingham.—Proposed school, Wood-street; Secretary, Education Offices, Gillingham.

Glasgow.—School for defective children, Garrioch-road, for the Glasgow School Board. Picture theatre; Messrs. Brand & Lithgow, 131, West Regent-street, Glasgow. Picture theatre, Castle-street, Cathcart (2,200*l.*); Mr. C. J. McNair, 112, Bath-street, Glasgow. Extensions to works of Messrs. J. & D. Reid, Govan (2,500*l.*); Mr. G. Baird, 135, Greenhead-terrace, Bridgton, Glasgow. Additions to North Kelvinside School; Messrs. Bryden & Robertson, architects, 147, Bath-street, Glasgow. Parochial churches, East Kilbride, for the County Council (2,000*l.*); Messrs. Whyte & Galloway, 121, Bath-street, Glasgow.

Grangemouth.—House, Bo'ness-road (3,000*l.*); Messrs. Wilson & Tait, Lumley-street, Grangemouth.

Grantham.—School; Mr. W. Wright, Surveyor, Town Hall, Grantham.

Hamilton.—Offices, Cadzow-street (2,000*l.*); Mr. George Kay, 78, Quarry-street, Hamilton.

Hamsterley Colliery. — Alterations to school; Secretary, Education Offices, Consett.

Harpurhey. — Secondary school, Alfred-street; Mr. J. H. Reynolds, Education Offices, Manchester.

Harrogate.—Additions at hotel, Cornwall-road, for the Grand Hotel Company, Ltd.

Haslingden. — Extensions to Town Hall (20,000*l.*); Mr. W. Stubbs, Engineer, Town Hall, Blackburn. Extensions to mill; Messrs. T. Tattersall, Ltd., builders, Manchester-road, Haslingden.

Hebden Bridge. — Warehouse, Cheetham-street, for the Hebden Bridge Co-operative Society.

Hindolveston (Norfolk).—Church; Mr. J. Green, architect, 31, Castle-meadow, Norwich.

Hull.—Bank for Lloyd's Bank, Ltd. (3,500*l.*); Mr. John Bilson, Parliament-street, Hull.

Ipswich.—School, St. Helen's (13,187*l.*); Mr. V. A. Marriott, builder, care of the Town Clerk, Town Hall, Ipswich Proposed housing scheme; Mr. E. Buckham, Surveyor, Town Hall, Ipswich.

Kent.—Residences at Tenterden and Eridge; Mr. C. W. Strange, architect, 20, Dudley-road, Tunbridge Wells; Messrs. Weeks & Son, builders, Tunbridge Wells.

Kidderminster.—Workmen's club for Messrs. Tomkinson & Adam, carpet manufacturers, 6-14, Church-street, Kidderminster.

Kilmarnock.—Picture theatre (1,000*l.*); Mr. W. F. Valentine, 18, John Dickie-street, Kilmarnock.

Leeds.—Addition at University-buildings, College-road; Mr. Paul Waterhouse, architect, Staple Inn-buildings, High Holborn, W.C.; Mr. Paul Rhodes, builder, Skinner-lane, Leeds.

Liverpool.—School, Netherfield-road South (100 places); Mr. J. Legge, Education Offices, Liverpool.

Loughborough.—Extension to drill hall (2,170*l.*); Mr. H. Walker, Surveyor, Town Hall, Loughborough.

Malton.—Proposed working-class houses, Peasey-hill; Mr. Gervase Marlham, estate agent, Earl Fitzwilliam's Estate, Old Malton Gate, Malton.

Maybole (N.B.).—Cinema (2,200*l.*); Mr. James A. Jack, Maybole, N.B.

Middlesbrough. — Picture hall; Messrs. Moore & Archibald, architects, Prudential-chambers, Middlesbrough.

Monmouthshire.—Cookery centre, Blaenavon, and proposed alterations to school, Marshfield; Mr. T. G. James, County Education Offices, Newport, Mon.

Murrow.—Proposed school; Mr. J. H. Haigh, Isle of Ely Education Offices, Wisbech.

New Eltham.—Proposed 275 houses for the New Eltham Tenants, Ltd.

New Mills.—Proposed re-erection of mills for Messrs. Warburton & Arrowsmith, fustian cutters.

Newbiggin.—Picture hall: Messrs. Lawrence & Carter, Prudhoe-place, Newbiggin.

Oxford.—Business premises for Messrs. Morton & Co., Oxford; Mr. H. Quinton, architect, 22, George-street, Oxford.

Pavbrembury.—Vicarage, stables, and farm buildings (2,000*l.*); Mr. E. H. Harbottle, architect, County-chambers, Exeter.

Pelton (Chester-le-Street).—One hundred and thirteen houses (29,500*l.*); Mr. J. H. Mole, Surveyor, Rural District Council Offices, Chester-le-Street.

Perth.—Extensions to Palace Theatre; Mr. F. C. Ravenhill, Albion House, King-street, Gloucester.

Peterhead.—Additions to academy (2,200*l.*); Mr. R. A. Duguid, 26, Marschal-street, Peterhead.

Port Talbot.—Warehouse; Messrs. Evans & Jones, architects, Station-road, Port Talbot.

Ramsbottom.—Institute; Vicar, St. Paul's Church, Ramsbottom.

Ramsgate.—School, Ellington-place (14,700*l.*); Mr. G. Graham Tucker, architect, 1, York-terrace, Ramsgate; Messrs. Grummant Brothers, builders, Grange-road, Ramsgate.

Reading.—Business premises for Messrs. Barber; Mr. W. R. Howell, architect, 17, Blagrave-street, Reading.

Saddleworth.—Housing scheme (7,010*l.*); Mr. J. H. Reynolds, Surveyor, Urban District Council Offices, Saddleworth.

Shoeburyness.—Proposed housing scheme; Mr. H. Harris, Surveyor, Urban District Council Offices, Shoeburyness.

South Bank.—Proposed Town Hall; Mr. C. McDermid, Surveyor, Urban District Council Offices, Eston.

Stamford.—Additions to works for the New Pick Motor Company.

Station Town. — School (2,978*l.*); Messrs. F. D. Cowieson & Co., builders, care of the Secretary, Education Offices, Durham.

Sunderland.—Laundry, baths, etc., at industrial school (1,100*l.*); Mr. H. Reid, Education Offices, Sunderland.

Sutton (Surrey).—Alterations to premises for Messrs. Brown & Skilton.

Swansea.—Laying out Baptist Well Quarry for building; Mr. Marcus Hoskins, Estate Agent, Town Hall, Swansea. Proposed 300 houses, Townhill; Mr. H. C. Portsmouth, architect, 6, Fisher-street, Swansea. Central stores, Pottery Wharf site (15,000*l.*); Mr. George Bell, Surveyor, Town Hall, Swansea. The following plans have been passed:—Messrs. J. & F. Weaver, three houses, Middle-road; Mr. A. J. Marles, six houses, Cromwell-street; Mr. D. Waters, five houses, St. Illtyd's-crescent; Mr. T. Richards, nine houses, De Brees-avenue; Mr. W. Govier, four houses, Odo-street, Hafod; Messrs. R. E. Jones, Ltd., additions to Castle Café, Castle-street; Mr. W. Rosser, warehouse, Gower-street; Messrs. J. B. Jenkins & Son, eight houses, Glanbrydan avenue; Messrs. S. Andrews & Son, cinema hall, Worcester-place; Messrs. Hopkins & Samuels, cinema hall, Sway-road, Morriston; the Swansea United Brewery, additions to "Ship Inn," Pentreguinea-road.

Tadworth.—Highways depôt (445*l.*); Messrs. Ross & Smith, builders, Tadworth.

Torquay. — Memorial hall, Park-street (2,000*l.*); Vicar, Holy Trinity Church, Torquay.

Wakefield.—Phthisis building (1,500*l.*) and additions at workhouse (950*l.*); Mr. H. Beaumont, Clerk, Guardians' Offices, Wakefield.

Washington.—Fifty houses; Mr. J. H. Mole, Surveyor, Rural District Council Offices, Chester-le-Street.

Waterfoot. — Cinema and billiard hall (4,000*l.*); Mr. H. Booth, architect, 42, Regent-street, Haslingden.

Weston-super-Mare. — Destructor buildings and slaughter-houses; Mr. H. A. Brown, Surveyor, Town Hall, Weston.

Weymouth.—Harbour works (12,000*l.*); Mr. K. J. S. Harris, Surveyor, Town Hall, Weymouth.

Willington. — Presbyterian church; Mr. Hays, architect, Wingate.

Withnell.—Additions to works for Messrs. Wiggins, Teape, & Co., Ltd., paper manufacturers.

FOREIGN AND COLONIAL.

Terminal Railway-Station, San Francisco.

H.M. Consul-General at San Francisco (Mr. A. C. Ross, C.B.) reports that, according to the local Press, the Southern Pacific Railway Company propose to spend nearly 1,000,000 dollars (about 205,500*l.*) on a new terminal station at San Francisco. The new station will be two stories high and built of reinforced concrete with a tiled roof.

Hotel Building and Furnishing Materials, Austria-Hungary.

According to the *Zentral Anzeiger für das öffentliche Lieferungswesen* (Vienna) of December 19, the Szechenyi Hydro authorities have decided to build a large hotel close to the Szechenyi Spa at a cost of 2,700,000 kronen (112,500*l.*).

Post and Telegraph Building, Madrid.

The *Gaceta de Madrid* of December 17 publishes the text of a law empowering the executive authorities (1) to incur a further expenditure not exceeding 3,642,570 pesetas (about 135,000*l.*) for the purpose of completing the construction of the new Central Post and Telegraph building in Madrid, and (2) to expend a sum not exceeding 1,194,890 pesetas (about 44,300*l.*) for furnishing the same building.

Abattoir, Plant, and Roofing Material, South Africa.

H.M. Trade Commissioner for South Africa has forwarded a copy of the Report of the Director of the Johannesburg Abattoir and Live Stock Market for the year ended June 30, 1912, in which he states that, among several important matters connected with the equipment of the abattoir which are still outstanding and call for early attention, may be mentioned the roofing of all pens in the live stock market, the provisions of an additional digester for by-product plant to treat all carcases collected in the town, and the installation of chill-rooms.

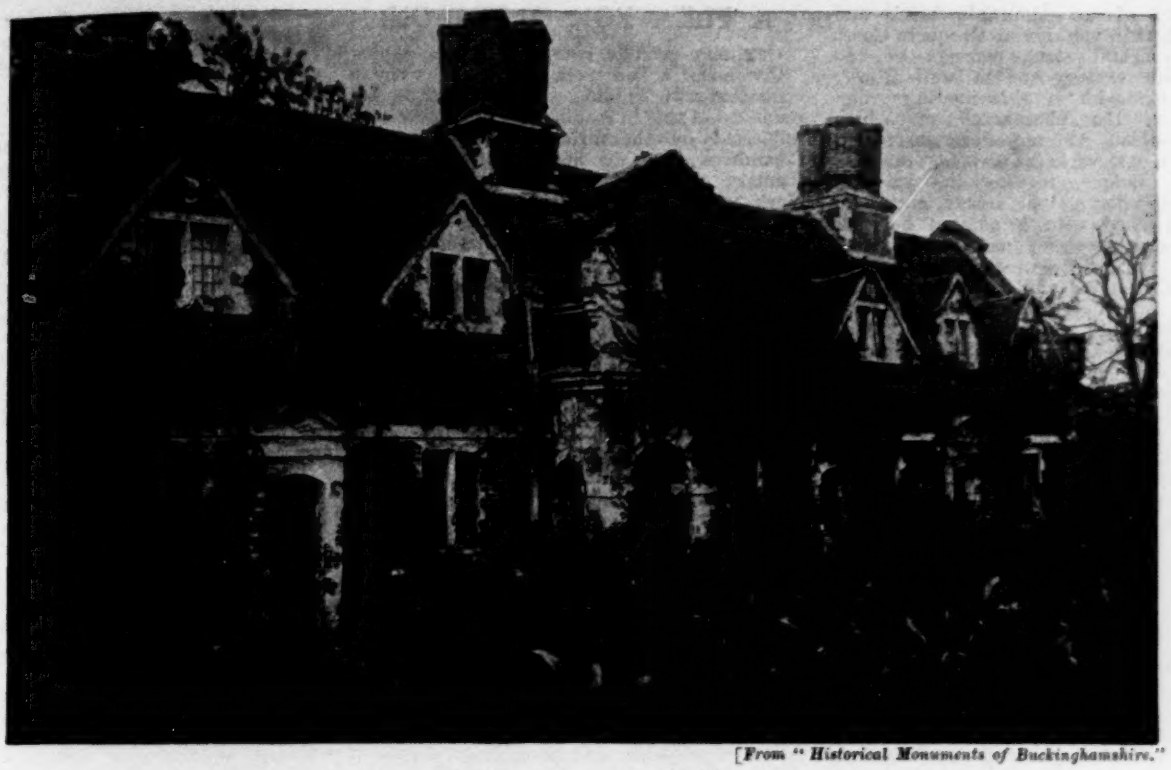
TRADE CATALOGUES.

"Pudlo" is the name of the new waterproofing compound which has been recently placed on the market by Messrs. Kerner-Greenwood & Co., of King's Lynn. The word "Pudlo" is coined from the clay puddle which was so good a friend to Brindley and the early engineers. The substance is an earthy oleate of such a nature that it enters into a chemical amalgamation with cementitious substances, and renders cement damp-resistant by dissolving the silica, whose presence makes it porous. "Pudlo" is wisely supplied in powder form, as being the simplest and most economical in use. By its addition the manufacturers guarantee that one part of good cement will carry three parts of sand. The varied uses to which cement thus mixed may be put to will readily suggest themselves to our readers. Porous brickwork may be made wet repellent with a rendering of Pudloed cement, sewers both wet and odour resistant, drainpipes can at last be efficiently jointed, and reservoirs, embankments, locks, railway bridges, and the like can be made watertight at a great saving of cost by the use of "Pudlo." Exhaustion tests by Messrs. Henry Faija & Co. prove that "Pudlo" rather increases the tensile strength of cement. A flat concrete roof treated with "Pudlo" has proved extremely satisfactory, and, though subjected to the influence of heavy storms before it had properly set, showed no signs of leakage. Its use is further recommended for artificial stone, cement blocks, and for the prevention of afflorescence on cement facings. Among users of "Pudlo" are the India Office, the War Office, the Office of Works, the Admiralty, and many of our leading railway companies.

We have received from Mr. James Gibbons, of St. John's Works, Wolverhampton, and 9, Southampton-row, W.C., the latest catalogue and price-list of safes, strong-rooms, insurance doors, etc. The "side-locking" safes, patented and manufactured by Mr. James Gibbons, have their bodies or outer shells bent cold, out of a single steel plate, so that the corners are solid and jointless, while the back plates are put in from the front and firmly secured to steel flanges overlapping the backs. The door-frames are of special T-section steel, mitred out cold and bent solid at the corners; these parts, which contain the locking mechanism, are case-hardened, and protect the lock from drilling at all points. In the better qualities the whole door itself is also case-hardened. By banishing the bolt-work from the door to the frame, the space thus gained allows a greater thickness of fire-proof composition in the door itself. Mr. James Gibbons has also sent us a price-list of his patent, adjustable, steel shelving for strong-rooms, book-rooms, etc. Clothes-racks and lockers are made on the same system, and have been widely adapted.

Messrs. George Bray & Co., Ltd., gas-lighting engineers, of Leeds, send us a descriptive booklet of the Bray "Elta" by-pass, a new device which enables users of acetylene for interior lighting to effect considerable economy. The apparent advantage of this by-pass is that the taper plug in the by-pass will not become stiff, as is the case with some by-passes, which become so stiff that in trying to turn the burner down it is more than likely that it will be turned out altogether. This, however, is prevented in the "Elta" by-pass, as an even tension is always kept on it by means of a spring, which also has the effect of making it completely gas-tight.

Messrs. Burt & Potts, of 63, 64, and 65, York-street, Westminster, S.W., send us their latest catalogue of wrought-iron casements and frames. The firm draw attention to the fact that owing to numerous improvements in the methods of production, the prices have in most cases been considerably reduced, while the high standards of material and workmanship for which their goods are well known have been maintained and even improved. Messrs. Burt & Potts, besides supplying every sort of door and window furniture, are also manufacturers of ornamental wrought-iron gates, grilles, signs, and other articles of this nature, from the simplest to the most ornate, while they are prepared to undertake every description of constructional ironwork.



[From "*Historical Monuments of Buckinghamshire.*"

Almshouses, Langley Marish.

BOOKS.

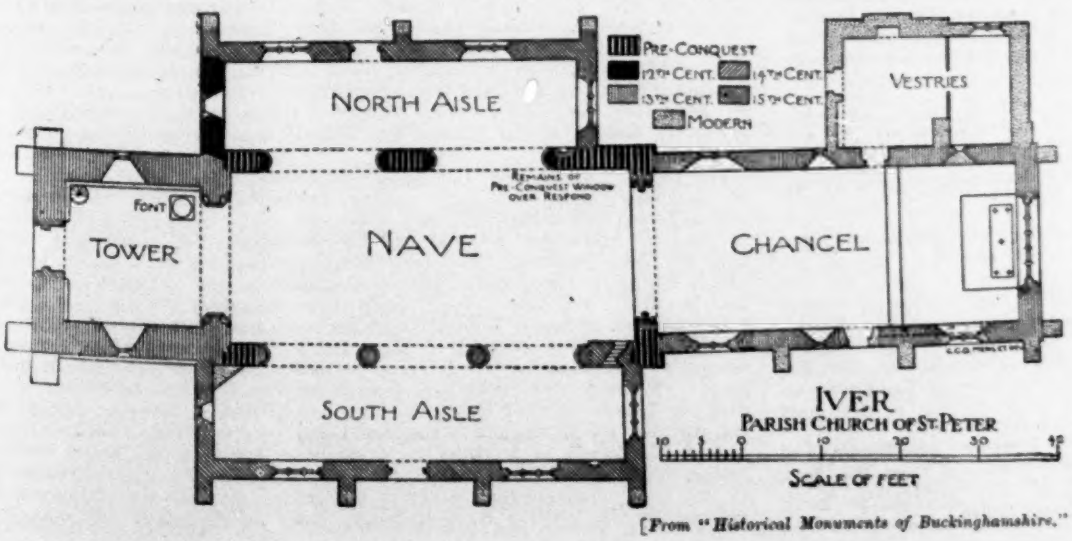
Royal Commission on Historical Monuments (England): An Inventory of the Historical Monuments in Buckinghamshire. Vol. I.

An important step in the national recognition of the value of the relics of the past was made when in 1908 a Royal Commission was appointed to inventory the historical monuments of Great Britain. It will be of inestimable value to future generations to have a record of every monument—using the term in the widest sense—from the prehistoric barrow and camp to the dwelling-houses and churches of the reign of William and Mary, existing, or at least known to exist, in the first quarter of the XXth century. We are now reaping the harvest of this sowing, and an unexpectedly rich one it is proving to be. So far as it can be judged from the volume before us, the task is being admirably executed and presented in a form convenient for reference, whatever may be the object of the person consulting it. The work would be superhuman if no flaw could be detected in it, and it certainly is unfortunate that the Scotch, Welsh, and English sections of the Commission should have selected different "formats" for their reports; such an annoying and inconvenient discrepancy might surely have been avoided in an official publication carried out under the auspices of one central authority. It only remains for Ireland to complete the confusion by adopting a fourth shape and type of get-up. It may also reasonably be objected that the photographs are of very unequal merit, and that the plate paper is of a temporary and inartistic nature. The view of the interior of Eton College Chapel is peculiarly poor, for instance. Is it too much to hope that before many years are past we shall have left the era of the present type of half-tone blocks, so unpleasant both in texture and tint with their mirror-like surface and blue-grey colour? But it would be ungracious to lay much stress on such blemishes, and more profitable to draw attention to the rich mine of information with which we are presented.

The inventory is arranged under parishes placed in alphabetical order. Under each are scheduled (1) prehistoric monuments and earthworks, (2) Roman monuments and earthworks, (3) English ecclesiastical monuments, (4) English secular monuments, and (5) unclassified monuments.

In the case of the more important monuments the description begins with a few words on the situation and materials and a statement of its historical development; a second paragraph calls attention to its more important features; a third gives a concise description, mainly architectural, of its details; a fourth describes fittings which are of interest, and the concluding paragraph gives information as to the present condition. The volume closes with a schedule of the monuments selected for illustration arranged under parishes, a good glossary of technical terms, and a full index both of names and subjects, with many useful cross-references. The difficulty of making the last items absolutely complete is illustrated by the definition of the word "quoin"—"the dressed *stones* at the corners of a building"—taken in conjunction with the plate facing p. 220 "showing pre-Conquest quoins," which are of Roman *bricks*.

The inventory is prefaced by a short but clear and interesting account of the general character of the area covered by the volume—the southern half of Buckinghamshire. It is not so rich in prehistoric fortifications as might be expected from the many suitable sites to be found in the Chiltern Hills, but it contains a considerable number of later earthworks, especially in the form of moated homesteads—as many as sixty-five examples. Roman remains are also few, the district having been heavily wooded and poorly watered. Of the churches, 65 per cent. are built of flint, the stone churches being confined to the neighbourhood of the Vale of Aylesbury. Timber buildings are still fairly plentiful, the Ostrich Inn at Colnbrook being a good example, and a certain number of buildings with walling in "wichert," a local white earth mixed with chopped straw, also occur—at Cuddington, for instance. While the half county contains nothing of the rank of a cathedral or first-rate castle or mansion, it is full of buildings of great beauty and historical or architectural interest. To mention but a few taken almost at random, it can boast of an exceptionally well-preserved example of a mediæval collegiate plan in Eton College, with its noble XVth-century chapel and noteworthy additions of various dates; of good XIIIth-century churches at Aylesbury and Long Crendon; of a very complete XIVth-century church at Bierton; of a mediæval hall at Dorney Court and a lesser mediæval house at the Savoy, Denham, both



[From "*Historical Monuments of Buckinghamshire.*"

timber-built; of an admirable brick and stone Elizabethan mansion at Chequers Court and an important stone mansion of the latar XVIIth century at Hartwell House. At Langley Marish is a fascinating group of buildings, the photograph of which we are enabled to reproduce herewith. The church, of various periods, contains a possibly unique feature in an oak colonnade replacing a stone arcade, a chancel quaintly enriched with a painted boarded ceiling, and a Jacobean monument whose colour-scheme overflows in fresco on to the surrounding plastered wall; a Jacobean pew with wooden lattices and bedecked with painted eyes, with the inscription "Deus videt," and an adjoining XVIIth-century library panelled and painted. On each side of the church is a row of XVIIth-century brick almshouses. Many other places, too, are worthy of remark for portions of buildings of special merit or for tombs or other minor objects. Thus we have the fine XIIIth-century arcades of Bledlow and Perpendicular nave of All Saints', High Wycombe; the mediæval timber porches of Little Hampden and Stoke Poges, the elaborate Norman doorway at Horton, the richly-carved woodwork at Hambleden believed to have formed part of Cardinal Wolsey's bed, the Jacobean screens at Dorton House, and staircases at the manor-houses at Princes Risborough and Little Missenden, the tombs at Chenies and Ellesborough, the fonts at Stowe and Stoke Mandeville. Some of the South Bucks villages, too, such as Colnbrook and Denham, Amersham, Wendover, and Long Crendon, would be hard to beat for their picturesque streets lined with buildings of various periods.

If the descriptions may be tested by that of a parish which happens to be particularly well known to the present writer—namely, Iver—they may be safely pronounced to leave little to be desired from the point of view of accuracy or completeness. An historical plan is provided for most buildings of importance, and that of Iver Church reproduced herewith is a model of what such plans should be. The church comprises portions dating from every century from the XIth to the XXth, and these, wherever it is possible, are carefully and clearly distinguished by different hatchings. This church is alone in the district in possessing pre-Conquest features—some walling and part of a window, now walled up, of axed stonework reddened by fire on the inner side. The portion of the church shown in the photograph is admirably chosen as exhibiting the most interesting features of the exterior. The quaint epitaph on the tombstone which appears in this view is unfortunately, however, not legible:—

> "Virtuous, courtes [*sic*], meak, and lowly;
> Free from malice, free from pride.
> A sudden change, and thus she died."

One is left to wonder whether this regrettable demise was consequent on a sudden lapse from such an enviable combination of virtues!

Completeness in the domestic section of the inventory is naturally less easy to compass than in the ecclesiastical, but those who inventoried Iver seem to have missed the XVIIth-century portions of Huntsmore Park, formerly a residence of the Bowyer family, whose tablets are in the church, and who were allied by marriage to Mr. Secretary Pepys:—

> "March 12, 1660.—Rode to Huntsmore to Mr. Bowyer's, where I found him and all well, and willing to have my wife come and board with them while I was at sea. Here I lay and took a spoonful of honey and nutmeg, scraped, for my cold, by Mr. Bowyer's direction."

Most of the buildings and monuments mentioned in this review, and many others, are illustrated. In addition to whole or half plate illustrations of single subjects, several groups of photos are given of similar objects, such as fonts, staircases, cottages. Plans of several parishes of special interest are given in addition to those of buildings and earthworks, and a good map of the half county is appended at the end.

The blocks of Langley Almshouses and Iver Church are reproduced from the book by permission of the Controller of his Majesty's Stationery Office.

A PLEA FOR CAST-IRON.

ONE may usefully bear in mind the saying "Give a dog a bad name . . . " even in connexion with building materials, and we are reminded of this in reading the report recently published by the British Fire Prevention Committee upon the fire which occurred last January at the Equitable Building in New York. Says the writer of the report: "Cast-iron columns were again shown to be inferior to wrought-iron or steel"; and he goes on to draw attention to the fact that there were three separate collapses of portions of the floors, in each case *apparently* due to the failure of the unprotected cast-iron columns. He also points out "the uncertainty of the thickness of the metal," and gives photographs of damaged columns which show that in one case the thickness of metal on one side of a column was ½ in., and on the other side was ⅛ in. Another column had a thickness of ¼ in. at the point of fracture, but even with so little thickness the column did not entirely fail. The photographs also show the crumpling of riveted steel stanchions, and the writer comments that "wrought-iron and steel, when heated to excess, fail only partially, or at least slowly, in contrast to cast-iron columns."

Our object here is to put in a plea for fair play for a much-abused material. Any ferro-concrete expert explains, when failure occurs in his especial material, that directions must be complied with and the work carried out accurately to his specification, or, of course, failure is probable, and he can cite dozens of failures to prove not the inferiority of his material, but merely the importance of dealing properly with it. It seems strange that the very people who admit without discussion the reasonableness of such an argument should not, in face of facts so clear as those displayed in the photographs of the Equitable Building, make a more reasonable estimate of the possibilities of cast-iron.

If a less prejudiced view were taken the resulting judgment might be very different. The report to which we have referred states that the cast-iron columns in the building ranged, according to the specification, from 6 in. diameter with ¾-in. metal on the top story to 14¾ in. diameter with 1¼-in. metal in the basement. Also "the columns appear to have been very defective, due to the shifting of the core during casting, making one side of the column very much thinner than the other." In addition to the figures already quoted, it is stated that one column shows metal ¾ in. thick on one side and 1¼ in. on the other. The drawings and photographs show that the design of the brackets was weak, in that the gusset pieces under the brackets for girders were very short, but the astonishing point is that the supervision exercised over the construction should have failed to detect the evidently extensive areas of metal which were actually ⅛ in. to ¼ in. thick, though supposedly 1 in. or more. The ordinarily careful inspector who uses a hammer freely would have detected such faulty castings by audition, and by the consequent further blows would have knocked a convincing hole or two in them. And where the eccentricity of core was less a few small drilled holes would have given accurate information to one tolerably skilled at detecting defects. It appears from the notes in the report that the cores were larger than was intended, that they either floated during casting or were inaccurately placed, and that the inspector's tests were not of the character that would be applied in this country. And so the author of the report (which is in many ways an admirable document) allows himself to follow the fashion of the moment and blame the material.

The present writer has had opportunities of examining many cast-iron columns and girders dating back a hundred years or so, and he does not remember one that had become unfit for further service. They were designed with a feeling for the material, and apparently not by firms who were giving competitive "designs and estimates"—fatal combination to the quality of work and to the client's interest! The material is no more "fool proof" or knave proof than ferro-concrete or steel, as witness the Tay Bridge castings and the crow-bar which was left in the mould and caused the failure of a girder in a smaller bridge, but it has qualities which give it a value of its own. Permanence, or even relative permanence, in building receives to-day but scant attention, or cast-iron would be more popular. But even as it is, some very heavy buildings of recent construction are carried by cast-iron columns, and as the pendulum of fashion swings it seems that still more will be. The reasons are not remote. For cheap, temporary work, or where the smallest possible diameter of column is wanted, steel is an easy first. But where a considerable bulk of metal is necessary, or permitted, the advantages of the casting can be shown. In many cases where a steel stanchion of ordinary type would have one or two webs, each only ½ in. thick, the corresponding cast column would have its sides probably at least three times that thickness, and in a fire the ½-in. steel might well be softened to failing-point before the 1½-in. metal was damaged. It may also be pointed out that the cast column is often absolutely fit for continued use after being heated, as the present writer has more than once found after fires. The state of the metal can be readily ascertained by the use of a small drill. If the only enemy is rust, the advantage of the thicker metal needs no emphasising, and in some cases the superior mass of a casting makes it safe when subject to violence that would deform an economically-designed steel member.

From the artistic standpoint, as from the structural, cast-iron has lately been under a cloud, not because of its own nature, but rather on account of the crimes of the purely office-trained draughtsmen whose ignorance of its qualities would be pitiable were it not so exasperating. The "designs" imitate, remotely indeed, wrought-iron, and it is hard to say whether they are worse in their newness or when, at the age of a year or so, they have been reduced to early decrepitude. But the sins which made "cast-iron" a term of contempt are not all those of the builders' merchant. Even to-day the architect, eager to give his client fine wrought iron gates at a price which would spell starvation for the smith who *wrought* them, not infrequently receives an ingenious combination of metals which includes a very fair percentage indeed of the much-despised "C.I." This is a very sore point with some craftsmen who find themselves with but little work because they are too honest to lower their estimates by doing as Rome does, though they well know that few architects could detect the substitution.

But cast-iron has qualities that should make it popular, and would do so if architects would take the trouble to study it as they study stone and wood. The fire-backs, the decorated cannon, the railings, and some of the grave slabs turned out by the old Sussex foundries remain, after two or three hundred years, things of interest and often of beauty. In garden architecture are there no possibilities for cast-iron columns and balusters, fountains, sun-dials, bench supports, and fifty other accessories, cast with no poverty-stricken stint of metal and left to rust and acquire all the glowing browns, russets, reds, and yellows that will naturally come if only they be permitted? Cast-iron has long enough been the victim of misunderstanding; it will respond readily enough to handling that is guided by knowledge and sympathy.

UNIVERSITY EXTENSION LECTURES ON ARCHITECTURE.

THE first of a course of University Extension Lectures on "English Gothic Architecture" was given by Mr. Banister Fletcher, F.R.I.B.A., at the Victoria and Albert Museum on Monday.

In dealing with the outburst of Gothic architecture in Mediæval England the lecturer approached it along the lines of the preceding centuries, so as to form some estimate of the forces which determined its virile character. He divided the contributory influences into geographical; geological and climatic; historical, social, and religious—geographical position which placed England in early times on the outskirts of civilisation; geological conditions which gave coarse stone, brick clay, flint, and timber; climate, ever constant in inconstancy, which demanded large windows and steep roofs, were formative elements in all periods. Social, historical, and religious influences, however, change with the centuries, for they spring not from the earth and the sky, but from the people themselves, with whose progress architecture is closely interwoven.

In the course of his remarks the lecturer gave an illustrated critical analysis of Anglo-Saxon

architecture as exemplified in the churches at Sompting, Earls Barton, Bradford-on-Avon, and elsewhere. The Conquest of England by William of Normandy gave more settled conditions and greater central authority. Great building activity is testified by the cathedrals and castles built by the Conqueror and his bishops. In the light of architecture, all the hackneyed statements in history-books and all the outstanding events relating to kings, nobles, and people take on a vivid reality because they are associated with the buildings which formed their stage and background. Thus architecture gives to the spirit of history a material and bodily form.

NEW MAIN SEWER IN SOUTH LONDON.

As part of a general scheme for improving the main drainage system of London, a new low-level sewer has been constructed by the London County Council from Battersea to Deptford.

The sewer commences at Wandsworth Common and terminates at the Deptford pumping-station, where the sewage is pumped into the outfall sewers leading to the Crossness Outfall Station. The work involved included the construction by tunnelling of about 3 miles of brick sewer from 6 ft. to 6 ft. 6 in. in diameter, and nearly 5 miles of cast-iron sewer, ranging in diameter from 7 ft. 6 in. to 8 ft., in addition to connecting sewers, junctions, penstocks, and other auxiliaries. The following particulars are from a paper contributed to the Society of Engineers by Mr. J. P. Harris, M.Inst.C.E., the Resident Engineer acting under the direction of Sir Maurice Fitzmaurice.

The adoption of brickwork and cast-iron, respectively, depended upon the level of the subsoil water. Brickwork was adhered to in places where water was not encountered, and cast-iron lining in places where water was present.

Three working shafts were excavated for execution of the brick portion, the shafts being some 3,500 ft. apart, averaging 56 ft. deep, and large enough in area for conversion into permanent side entrances into the sewer.

Work was conducted simultaneously from all three shafts in two directions, and proceeded at the average rate of 7 ft. 8 in. a day. The brickwork includes three rings, the inner ring being of pressed bricks in the upper half and Staffordshire blue bricks in the lower half, while the two outer rings are of red wire-cut bricks.

In excavating each length of 7 ft. 8 in. five timber crown bars of 7 in. diameter were used, the leading ends carried by props and the back ends on the second ring of the brickwork previously completed. The crown bars held up 1½ in. poling boards, spaced some inches apart, as close timbering was unnecessary.

After removal of the crown bars and poling boards the spaces left above the third ring of brickwork were filled with rough brick packing in cement mortar, and in places where the sewer passed under railways or important properties cement grout was injected under pressure.

Each of the three shafts was enclosed by hoarding, and the space so provided was used for the storage and preparation of materials, all of which, as well as excavated material, being lowered or raised by means of an electric crane erected close to the mouth of the shaft.

The workings were lighted by electric lamps, and supplied with fresh air from electrically-operated air pumps fitted in the shafts. Permanent side entrances and ventilation shafts were constructed at intervals of 800 ft. along the sewer.

Four shafts were sunk for the cast-iron portion of the sewer, three of these having been used as working shafts. They were circular in cross-section, and lined with cast-iron rings 4 ft. deep and from 17 ft. to 20 ft. in diameter. The bottom ring was 2 ft. deep, and provided with a cutting edge, while the rings immediately above it had special castings to form "eyes" for the sewer to pass through. Above these eyes an air-tight floor was constructed, capable of withstanding an upward pressure of 11½ lb. per square inch.

In sinking the shafts excavation proceeded in open air until water was reached, when the air-tight floor and an air-lock were erected, and further excavation continued under compressed air.

The tunnels were driven by shields of the now familiar type, lowered in parts to the bottom of the shafts, and afterwards erected. Six shields were operated simultaneously, two from each shaft.

The cast-iron portion of the sewer is formed of cast-iron rings ⅞ in. thick, lined with Portland cement concrete, in the proportions of 1 : 1 : 2, the invert and the sides up to axis level being faced with pressed blue bricks.

All plant for this part of the sewer, except the hydraulic rams on the shields, was worked electrically, and materials were hauled along the tunnels by an 8-h.p. electric locomotive. Electric lights and telephones were provided throughout.

Considerable care was necessary in setting out the sewer, the accuracy of the work being denoted by the fact that at the junctions of the tunnels the error in no case exceeded half an inch in either line or level, although some of the drives were of great length, one in particular being 6,100 ft. long, which is probably the longest tunnel constructed from one face in London up to the present time.

Work was commenced in January, 1910, and has only recently been completed. The contract price was 450,000*l.*, the contractors being Messrs. Griffiths & Co., of London-wall.

GAS AS FUEL.

GREAT improvements have been effected in recent years in the methods of using coal-gas as a fuel in both house and factory. The continued growth and prosperity of gas undertakings even in localities where electricity is extensively employed for illumination and power purposes is largely due to these improvements, for the volume of gas used for lighting has in many towns remained almost stationary for several years. The incandescent burners now used for domestic lighting consume individually so little gas that only those undertakings which serve districts having a rapidly-increasing population are able to show a large annual increase in the sale of gas for lighting purposes. The increased sales are due mainly to the increased quantity of gas used as a fuel.

The most remarkable event of recent date in connexion with gaseous combustion is the adaptation to industrial furnaces of a discovery made nearly a century ago by Sir Humphry Davy. Davy discovered that a mixture of coal-gas and air could be made to burn without flame if brought in contact with a warm refractory body, such as metallic platinum. He found that when the mixture of gas and air in suitable proportions was allowed contact with the platinum the metal became incandescent, and was maintained at a red heat until no free oxygen remained in the mixture. Combustion of the gas had, therefore, taken place on the surface of the platinum without being accompanied by the production of flame. Professor Bone, working in conjunction with C. D. McCourt, and using porous firebrick as his refractory material, has adapted the principle of flameless surface combustion to steam boilers and to many kinds of furnaces used for industrial purposes, with the result that over 90 per cent. of the heating value of the gas is utilised. This efficiency is much higher than that obtained from the same gas when burned in the ordinary manner.

The combustion which occurs in an ordinary gas flame is a much slower operation than the combustion which occurs on the surface of a highly-heated solid surface, and the heat is concentrated in so small an area that high temperatures hitherto unattainable in a gas furnace are now obtained without difficulty.

Professor Bone admits that it may be impossible in practice to obtain perfect flameless surface combustion, but he has approached very closely to his ideal and has obtained results greatly superior to those obtained with any form of flame furnace.

Noteworthy progress has, however, been made in the construction of furnaces in which gas flames are employed. With coal-gas compressed to about 5 lb. per square inch, or with gas under ordinary pressure mixed with air under high pressure, fed into furnaces of modern construction, much work is now being accomplished which five years ago was done in coke furnaces. The temperature attainable in the gas furnace has been greatly raised, and the quantity of gas required to melt a given weight of metal has been largely reduced. In the Royal Mint of London, for example, nickel is now melted in large quantities in a gas furnace, yet this was impracticable five years ago in any gas furnace then known. The melting-point of nickel is about 2,810 deg. Fahr. Gas furnaces are now rapidly superseding coke furnaces in many industries other than that of metal melting and metal annealing, for even where the saving in money is not considerable the advantage of being able to maintain the furnace for any length of time at a uniform temperature is greatly appreciated in many industrial operations.

Professor Bone's adaptation of surface combustion to industrial furnaces is so recent that it is not yet possible to foretell to what extent surface combustion furnaces will displace high-pressure flame furnaces.

Turning, lastly, to the subject of domestic gas fires, we find that the fires containing ball fuel are being superseded by fires having the fuel in upright columnar form. The old form of gas fire depended to a large extent for its efficiency upon convected heat obtained by passing the hot products of gas combustion in a tortuous passage through a metal channel before they were discharged into the flue. The ball fuel was arranged in haphazard manner over the gas nozzles, and often distorted and cooled the flames so that incomplete combustion occurred and a disagreeable odour was emitted from the fire. Modern fires are more shallow, but have wider fronts and no fire-bars, and the fuel is shaped in open-work columns, so that each flame is surrounded by a pillar of incandescent radiant matter, but the fuel cannot obstruct the upward flow of gas or distort the flames. The canopy of the modern fire is made with greater projection, so that any products of combustion which may happen to escape from the front of the fire are trapped in the canopy and conducted to the flue. The tortuous metal channels for utilising, as convected heat, the heat in the escaping combustion products are abandoned. A fire with an incandescent bellied front which has quite recently been patented by Mr. R. P. Harris is likely to prove popular because the cheerful glow of the incandescent refractory material is visible to those sitting at the side of the fire as well as to those sitting immediately in front of it.

The objective of the modern gas fire is to convert the largest possible proportion of the heating value of the gas into radiant heat and less into convected heat; and that the changes which have been made in the form of construction are appreciated is proved by the extraordinarily large number of modern forms of fire which have been sold during the last three years.

THE FINANCE ACT REFERENCE.

IN the House of Commons the Chancellor of the Exchequer on the 10th ult. accepted the reference for the proposed Committee to inquire into the methods of valuation in the following terms:—"To inquire into the working of land valuation prescribed by Part I. of the Finance (1909-10) Act, 1910, and to report whether the methods employed and the instructions given to the valuers are generally satisfactory so far as concerns administration apart from any questions involving either policy or the legal interpretation of the provisions of the Act." These terms of reference are rather more satisfactory than those formerly proposed, which we discussed in our issue for July 5, but it is still doubtful whether under these terms the Committee will be able to inquire into such questions as what is increment value, what deductions should be made in arriving at assessable site value, and such kindred points.

In the House of Commons on the 10th ult. Mr. Lloyd George is reported to have said that Form IV. had never been declared illegal; it was purely a question as to its being issued out of time.

This statement is so astounding that we take this opportunity of drawing attention to the facts. In the case of Dyson *v.* Attorney-General, which will be found noted in the *Builder*, December 1, 1910, the Form was held invalid because less than thirty days were allowed in which to comply with it, and it is true that this would have sufficed to dispose of the case, but the Attorney-General asked the Court of Appeal to decide other points involved in the case, and the Court unanimously held that requisition (i)—"If the person making the return is also the

timber-built; of an admirable brick and stone Elizabethan mansion at Chequers Court and an important stone mansion of the later XVIIth century at Hartwell House. At Langley Marish is a fascinating group of buildings, the photograph of which we are enabled to reproduce herewith. The church, of various periods, contains a possibly unique feature in an oak colonnade replacing a stone arcade, a chancel quaintly enriched with a painted boarded ceiling, and a Jacobean monument whose colour-scheme overflows in fresco on to the surrounding plastered wall; a Jacobean pew with wooden lattices and bedecked with painted eyes, with the inscription "Deus videt," and an adjoining XVIIth-century library panelled and painted. On each side of the church is a row of XVIth-century brick almshouses. Many other places, too, are worthy of remark for portions of buildings of special merit or for tombs or other minor objects. Thus we have the fine XIIIth-century arcades of Bledlow and Perpendicular nave of All Saints', High Wycombe; the mediæval timber porches of Little Hampden and Stoke Poges, the elaborate Norman doorway at Horton, the richly-carved woodwork at Hambleden believed to have formed part of Cardinal Wolsey's bed, the Jacobean screens at Dorton House, and staircases at the manor-houses at Princes Risborough and Little Missenden, the tombs at Chenies and Ellesborough, the fonts at Stowe and Stoke Mandeville. Some of the South Bucks villages, too, such as Colnbrook and Denham, Amersham, Wendover, and Long Crendon, would be hard to beat for their picturesque streets lined with buildings of various periods.

If the descriptions may be tested by that of a parish which happens to be particularly well known to the present writer—namely, Iver—they may be safely pronounced to leave little to be desired from the point of view of accuracy or completeness. An historical plan is provided for most buildings of importance, and that of Iver Church reproduced herewith is a model of what such plans should be. The church comprises portions dating from every century from the XIth to the XXth, and these, wherever it is possible, are carefully and clearly distinguished by different hatchings. This church is alone in the district in possessing pre-Conquest features—some walling and part of a window, now walled up, of axed stonework reddened by fire on the inner side. The portion of the church shown in the photograph is admirably chosen as exhibiting the most interesting features of the exterior. The quaint epitaph on the tombstone which appears in this view is unfortunately, however, not legible :—

> "Virtuous, courtes [*sic*], meak, and lowly;
> Free from malice, free from pride.
> A sudden change, and thus she died."

One is left to wonder whether this regrettable demise was consequent on a sudden lapse from such an enviable combination of virtues!

Completeness in the domestic section of the inventory is naturally less easy to compass than in the ecclesiastical, but those who inventoried Iver seem to have missed the XVIIth-century portions of Huntsmore Park, formerly a residence of the Bowyer family, whose tablets are in the church, and who were allied by marriage to Mr. Secretary Pepys :—

> "March 12, 1660.—Rode to Huntsmore to Mr. Bowyer's, where I found him and all well, and willing to have my wife come and board with them while I was at sea. Here I lay and took a spoonful of honey and nutmeg, scraped, for my cold, by Mr. Bowyer's direction."

Most of the buildings and monuments mentioned in this review, and many others, are illustrated. In addition to whole or half plate illustrations of single subjects, several groups of photos are given of similar objects, such as fonts, staircases, cottages. Plans of several parishes of special interest are given in addition to those of buildings and earthworks, and a good map of the half county is appended at the end.

The blocks of Langley Almshouses and Iver Church are reproduced from the book by permission of the Controller of his Majesty's Stationery Office.

A PLEA FOR CAST-IRON.

ONE may usefully bear in mind the saying "Give a dog a bad name . . . " even in connexion with building materials, and we are reminded of this in reading the report recently published by the British Fire Prevention Committee upon the fire which occurred last January at the Equitable Building in New York. Says the writer of the report: "Cast-iron columns were again shown to be inferior to wrought-iron or steel"; and he goes on to draw attention to the fact that there were three separate collapses of portions of the floors, in each case *apparently* due to the failure of the unprotected cast-iron columns. He also points out "the uncertainty of the thickness of the metal," and gives photographs of damaged columns which show that in one case the thickness of metal on one side of a column was ¼ in., and on the other side was ⅛ in. Another column had a thickness of ⅛ in. at the point of fracture, but even with so little thickness the column did not entirely fail. The photographs also show the crumpling of riveted steel stanchions, and the writer comments that "wrought-iron and steel, when heated to excess, fail only partially, or at least slowly, in contrast to cast-iron columns."

Our object here is to put in a plea for fair play for a much-abused material. Any ferro-concrete expert explains, when failure occurs in his especial material, that directions must be complied with and the work carried out accurately to his specification, or, of course, failure is probable, and he can cite dozens of failures to prove not the inferiority of his material, but merely the importance of dealing properly with it. It seems strange that the very people who admit without discussion the reasonableness of such an argument should not, in face of facts so clear as those displayed in the photographs of the Equitable Building, make a more reasonable estimate of the possibilities of cast-iron.

If a less prejudiced view were taken the resulting judgment might be very different. The report to which we have referred states that the cast-iron columns in the building ranged, according to the specification, from 6 in. diameter with ¾-in. metal on the top story to 14¾ in. diameter with 1⅛-in. metal in the basement. Also "the columns appear to have been very defective, due to the shifting of the core during casting, making one side of the column very much thinner than the other." In addition to the figures already quoted, it is stated that one column shows metal ⅝ in. thick on one side and 1½ in. on the other. The drawings and photographs show that the design of the brackets was weak, in that the gusset pieces under the brackets for girders were very short, but the astonishing point is that the supervision exercised over the construction should have failed to detect the evidently extensive areas of metal which were actually ⅛ in. to ¼ in. thick, though supposedly 1 in. or more. The ordinarily careful inspector who uses a hammer freely would have detected such faulty castings by audition, and by the consequent further blows would have knocked a convincing hole or two in them. And where the eccentricity of core was less a few small drilled holes would have given accurate information to one tolerably skilled at detecting defects. It appears from the notes in the report that the cores were larger than was intended, that they either floated during casting or were inaccurately placed, and that the inspector's tests were not of the character that would be applied in this country. And so the author of the report (which is in many ways an admirable document) allows himself to follow the fashion of the moment and blame the material.

The present writer has had opportunities of examining many cast-iron columns and girders dating back a hundred years or so, and he does not remember one that had become unfit for further service. They were designed with a feeling for the material, and apparently not by firms who were giving competitive "designs and estimates"—fatal combination to the quality of work and to the client's interest! The material is no more "fool proof" or knave proof than ferro-concrete or steel, as witness the Tay Bridge castings and the crow-bar which was left in the mould and caused the failure of a girder in a smaller bridge, but it has qualities which give it a value of its own. Permanence, or even relative permanence, in building receives to-day but scant attention, or cast-iron would be more popular. But even as it is, some very heavy buildings of recent construction are carried by cast-iron columns, and as the pendulum of fashion swings it seems that still more will be. The reasons are not remote. For cheap, temporary work, or where the smallest possible diameter of column is wanted, steel is an easy first. But where a considerable bulk of metal is necessary, or permitted, the advantages of the casting can be shown. In many cases where a steel stanchion of ordinary type would have one or two webs, each only ½ in. thick, the corresponding cast column would have its sides probably at least three times that thickness, and in a fire the ½-in. steel might well be softened to failing-point before the 1½-in. metal was damaged. It may also be pointed out that the cast column is often absolutely fit for continued use after being heated, as the present writer has more than once found after fires. The state of the metal can be readily ascertained by the use of a small drill. If the only enemy is rust, the advantage of the thicker metal needs no emphasising, and in some cases the superior mass of a casting makes it safe when subject to violence that would deform an economically-designed steel member.

From the artistic standpoint, as from the structural, cast-iron has lately been under a cloud, not because of its own nature, but rather on account of the crimes of the purely office-trained draughtsmen whose ignorance of its qualities would be pitiable were it not so exasperating. The "designs" imitate, remotely indeed, wrought-iron, and it is hard to say whether they are worse in their newness or when, at the age of a year or so, they have been reduced to early decrepitude. But the sins which made "cast-iron" a term of contempt are not all those of the builders' merchant. Even to-day the architect, eager to give his client fine wrought iron gates at a price which would spell starvation for the smith who *wrought* them, not infrequently receives an ingenious combination of metals which includes a very fair percentage indeed of the much-despised "C.I." This is a very sore point with some craftsmen who find themselves with but little work because they are too honest to lower their estimates by doing as Rome does, though they well know that few architects could detect the substitution.

But cast-iron has qualities that should make it popular, and would do so if architects would take the trouble to study it as they study stone and wood. The fire-backs, the decorated cannon, the railings, and some of the grave slabs turned out by the old Sussex foundries remain, after two or three hundred years, things of interest and often of beauty. In garden architecture are there no possibilities for cast-iron columns and balusters, fountains, sun-dials, bench supports, and fifty other accessories, cast with no poverty-stricken stint of metal and left to rust and acquire all the glowing browns, russets, reds, and yellows that will naturally come if only they be permitted! Cast-iron has long enough been the victim of misunderstanding; it will respond readily enough to handling that is guided by knowledge and sympathy.

UNIVERSITY EXTENSION LECTURES ON ARCHITECTURE.

THE first of a course of University Extension Lectures on "English Gothic Architecture" was given by Mr. Banister Fletcher, F.R.I.B.A., at the Victoria and Albert Museum on Monday.

In dealing with the outburst of Gothic architecture in Mediæval England the lecturer approached it along the lines of the preceding centuries, so as to form some estimate of the forces which determined its virile character. He divided the contributory influences into geographical; geological and climatic; historical, social, and religious—geographical position which placed England in early times on the outskirts of civilisation; geological conditions which gave coarse stone, brick clay, flint, and timber; climate, ever constant in inconstancy, which demanded large windows and steep roofs, were formative elements in all periods. Social, historical, and religious influences, however, change with the centuries, for they spring not from the earth and the sky, but from the people themselves, with whose progress architecture is closely interwoven.

In the course of his remarks the lecturer gave an illustrated critical analysis of Anglo-Saxon

architecture as exemplified in the churches at Sompting, Earls Barton, Bradford-on-Avon, and elsewhere. The Conquest of England by William of Normandy gave more settled conditions and greater central authority. Great building activity is testified by the cathedrals and castles built by the Conqueror and his bishops. In the light of architecture, all the hackneyed statements in history-books and all the outstanding events relating to kings, nobles, and people take on a vivid reality because they are associated with the buildings which formed their stage and background. Thus architecture gives to the spirit of history a material and bodily form.

NEW MAIN SEWER IN SOUTH LONDON.

As part of a general scheme for improving the main drainage system of London, a new low-level sewer has been constructed by the London County Council from Battersea to Deptford.

The sewer commences at Wandsworth Common and terminates at the Deptford pumping-station, where the sewage is pumped into the outfall sewers leading to the Crossness Outfall Station. The work involved included the construction by tunnelling of about 3 miles of brick sewer from 6 ft. to 6 ft. 6 in. in diameter, and nearly 5 miles of cast-iron sewer, ranging in diameter from 7 ft. 6 in. to 8 ft., in addition to connecting sewers, junctions, penstocks, and other auxiliaries. The following particulars are from a paper contributed to the Society of Engineers by Mr. J. P. Harris, M.Inst.C.E., the Resident Engineer acting under the direction of Sir Maurice Fitzmaurice.

The adoption of brickwork and cast-iron, respectively, depended upon the level of the subsoil water. Brickwork was adhered to in places where water was not encountered, and cast-iron lining in places where water was present.

Three working shafts were excavated for execution of the brick portion, the shafts being some 3,500 ft. apart, averaging 56 ft. deep, and large enough in area for conversion into permanent side entrances into the sewer.

Work was conducted simultaneously from all three shafts in two directions, and proceeded at the average rate of 7 ft. 8 in. a day. The brickwork includes three rings, the inner ring being of pressed bricks in the upper half and Staffordshire blue bricks in the lower half, while the two outer rings are of red wire-cut bricks.

In excavating each length of 7 ft. 8 in. five timber crown bars of 7 in. diameter were used, the leading ends carried by props and the back ends on the second ring of the brickwork previously completed. The crown bars held up 1½ in. poling boards, spaced some inches apart, as close timbering was unnecessary.

After removal of the crown bars and poling boards the spaces left above the third ring of brickwork were filled with rough brick packing in cement mortar, and in places where the sewer passed under railways or important properties cement grout was injected under pressure.

Each of the three shafts was enclosed by hoarding, and the space so provided was used for the storage and preparation of materials, all of which, as well as excavated material, being lowered or raised by means of an electric crane erected close to the mouth of the shaft.

The workings were lighted by electric lamps, and supplied with fresh air from electrically-operated air pumps fitted in the shafts. Permanent side entrances and ventilation shafts were constructed at intervals of 800 ft. along the sewer.

Four shafts were sunk for the cast-iron portion of the sewer, three of these having been used as working shafts. They were circular in cross-section, and lined with cast-iron rings 4 ft. deep and from 17 ft. to 20 ft. in diameter. The bottom ring was 2 ft. deep, and provided with a cutting edge, while the rings immediately above it had special castings to form "eyes" for the sewer to pass through. Above these eyes an air-tight floor was constructed, capable of withstanding an upward pressure of 11½ lb. per square inch.

In sinking the shafts excavation proceeded in open air until water was reached, when the air-tight floor and an air-lock were erected, and further excavation continued under compressed air.

The tunnels were driven by shields of the now familiar type, lowered in parts to the bottom of the shafts, and afterwards erected. Six shields were operated simultaneously, two from each shaft.

The cast-iron portion of the sewer is formed of cast-iron rings ⅞ in. thick, lined with Portland cement concrete, in the proportions of 1 : 1 : 2, the invert and the sides up to axis level being faced with pressed blue bricks.

All plant for this part of the sewer, except the hydraulic rams on the shields, was worked electrically, and materials were hauled along the tunnels by an 8-h.p. electric locomotive. Electric lights and telephones were provided throughout.

Considerable care was necessary in setting out the sewer, the accuracy of the work being denoted by the fact that at the junctions of the tunnels the error in no case exceeded half an inch in either line or level, although some of the drives were of great length, one in particular being 6,100 ft. long, which is probably the longest tunnel constructed from one face in London up to the present time.

Work was commenced in January, 1910, and has only recently been completed. The contract price was 450,000*l.*, the contractors being Messrs. Griffiths & Co., of London-wall.

GAS AS FUEL.

GREAT improvements have been effected in recent years in the methods of using coal-gas as a fuel in both house and factory. The continued growth and prosperity of gas undertakings even in localities where electricity is extensively employed for illumination and power purposes is largely due to these improvements, for the volume of gas used for lighting has in many towns remained almost stationary for several years. The incandescent burners now used for domestic lighting consume individually so little gas that only those undertakings which serve districts having a rapidly-increasing population are able to show a large annual increase in the sale of gas for lighting purposes. The increased sales are due mainly to the increased quantity of gas used as a fuel.

The most remarkable event of recent date in connexion with gaseous combustion is the adaptation to industrial furnaces of a discovery made nearly a century ago by Sir Humphry Davy. Davy discovered that a mixture of coal-gas and air could be made to burn without flame if brought in contact with a warm refractory body, such as metallic platinum. He found that when the mixture of gas and air in suitable proportions was allowed contact with the platinum the metal became incandescent, and was maintained at a red heat until no free oxygen remained in the mixture. Combustion of the gas had, therefore, taken place on the surface of the platinum without being accompanied by the production of flame. Professor Bone, working in conjunction with C. D. McCourt, and using porous firebrick as his refractory material, has adapted the principle of flameless surface combustion to steam boilers and to many kinds of furnaces used for industrial purposes, with the result that over 90 per cent. of the heating value of the gas is utilised. This efficiency is much higher than that obtained from the same gas when burned in the ordinary manner.

The combustion which occurs in an ordinary gas flame is a much slower operation than the combustion which occurs on the surface of a highly-heated solid surface, and the heat is concentrated in so small an area that high temperatures hitherto unattainable in a gas furnace are now obtained without difficulty.

Professor Bone admits that it may be impossible in practice to obtain perfect flameless surface combustion, but he has approached very closely to his ideal and has obtained results greatly superior to those obtained with any form of flame furnace.

Noteworthy progress has, however, been made in the construction of furnaces in which gas flames are employed. With coal-gas compressed to about 5 lb. per square inch, or with gas under ordinary pressure mixed with air under high pressure, fed into furnaces of modern construction, much work is now being accomplished which five years ago was done in coke furnaces. The temperature attainable in the gas furnace has been greatly raised, and the quantity of gas required to melt a given weight of metal has been largely reduced. In the Royal Mint of London, for example, nickel is now melted in large quantities in a gas furnace, yet this was impracticable five years ago in any gas furnace then known. The melting-point of nickel is about 2,810 deg. Fahr. Gas furnaces are now rapidly superseding coke furnaces in many industries other than that of metal melting and metal annealing, for even where the saving in money is not considerable the advantage of being able to maintain the furnace for any length of time at a uniform temperature is greatly appreciated in many industrial operations.

Professor Bone's adaptation of surface combustion to industrial furnaces is so recent that it is not yet possible to foretell to what extent surface combustion furnaces will displace high-pressure flame furnaces.

Turning, lastly, to the subject of domestic gas fires, we find that the fires containing ball fuel are being superseded by fires having the fuel in upright columnar form. The old form of gas fire depended to a large extent for its efficiency upon convected heat obtained by passing the hot products of gas combustion in a tortuous passage through a metal channel before they were discharged into the flue. The ball fuel was arranged in haphazard manner over the gas nozzles, and often distorted and cooled the flames so that incomplete combustion occurred and a disagreeable odour was emitted from the fire. Modern fires are more shallow, but have wider fronts and no fire-bars, and the fuel is shaped in open-work columns, so that each flame is surrounded by a pillar of incandescent radiant matter, but the fuel cannot obstruct the upward flow of gas or distort the flames. The canopy of the modern fire is made with greater projection, so that any products of combustion which may happen to escape from the front of the fire are trapped in the canopy and conducted to the flue. The tortuous metal channels for utilising, as convected heat, the heat in the escaping combustion products are abandoned. A fire with an incandescent bellied front which has quite recently been patented by Mr. R. P. Harris is likely to prove popular because the cheerful glow of the incandescent refractory material is visible to those sitting at the side of the fire as well as to those sitting immediately in front of it.

The objective of the modern gas fire is to convert the largest possible proportion of the heating value of the gas into radiant heat and less into convected heat; and that the changes which have been made in the form of construction are appreciated is proved by the extraordinarily large number of modern forms of fire which have been sold during the last three years.

THE FINANCE ACT REFERENCE.

IN the House of Commons the Chancellor of the Exchequer on the 10th ult. accepted the reference for the proposed Committee to inquire into the methods of valuation in the following terms:—"To inquire into the working of land valuation prescribed by Part I. of the Finance (1909-10) Act, 1910, and to report whether the methods employed and the instructions given to the valuers are generally satisfactory so far as concerns administration apart from any questions involving either policy or the legal interpretation of the provisions of the Act." These terms of reference are rather more satisfactory than those formerly proposed, which we discussed in our issue for July 5, but it is still doubtful whether under these terms the Committee will be able to inquire into such questions as what is increment value, what deductions should be made in arriving at assessable site value, and such kindred points.

In the House of Commons on the 10th ult. Mr. Lloyd George is reported to have said that Form IV. had never been declared illegal; it was purely a question as to its being issued out of time.

This statement is so astounding that we take this opportunity of drawing attention to the facts. In the case of Dyson *v.* Attorney-General, which will be found noted in the *Builder*, December 1, 1910, the Form was held invalid because less than thirty days were allowed in which to comply with it, and it is true that this would have sufficed to dispose of the case, but the Attorney-General asked the Court of Appeal to decide other points involved in the case, and the Court unanimously held that requisition (*i*)—"If the person making the return is also the

occupier, state the annual value"—was, in the case of an owner in occupation, unauthorised, since it did not relate to information prescribed by the Act, and was hypothetical, and that the presence of this requisition in the form *rendered the whole form invalid* when served upon an owner in occupation.

THE POST OFFICE LONDON DIRECTORY.

WE have received from Messrs. Kelly's Directories, Ltd., High Holborn, a copy of the new edition of that indispensable work of reference, the Post Office London Directory, with County Suburbs, for 1913. The volume consists, with the County Suburbs, of about 3,500 pages, exclusive of advertisements, and two excellent maps are given, the volume forming a complete directory of the following, amongst other information: streets, professions and trades, law, court, parliamentary, postal, municipal, clerical, etc. The volume is a comprehensive directory of the City and of the whole of the County of London, and most of the divisions of the work will be found to have been corrected down to the latest possible moment consistent with its publication shortly before Christmas. The present is the 114th annual issue and shows an increase of forty pages over the edition for 1912. The Directory is so well known that additional comment is unnecessary, except to say that it could not very well be improved upon.

DIARIES, ETC., FOR 1913.

WE have received from Messrs. Sprague & Co., Ltd., 69 and 70, Dean-street, Soho, W., the forty-fourth annual edition of their excellent Diary, containing the list of officers and principal fixtures for the ensuing session of the R.I.B.A. and other institutions connected with the profession. The diary is well known to our readers. It contains, as usual, useful architects' tables, etc.

The *Architects' and Surveyors' Diary, Directory, and Price-Book for* 1913 has been published as usual by Messrs. Waterlow Brothers & Layton, Ltd. (Birchin-lane, E.C.). The diary consists not only of a diary of one day to a page, but it includes a large amount of useful information required by architects and others, this part of the publication consisting of nearly 500 pages of closely-printed matter—lists of names of members of the R.I.B.A., the Surveyors' Institution, and other bodies; the London Building Acts; Housing, Town Planning, etc., Act, 1909; London County Council and Board of Education Regulations; and articles, notes, tables, etc., of professional and general interest. The diary is a neat and attractive work, the price of which is 3s. 6d. and 6s., according to binding and diary space.

Hayward-Tyler & Co.'s Diary for 1913.—This handy pocket-diary contains numerous tables that should be found useful to architects, surveyors, and engineers. Among them we may mention those relating to water supply and friction in pipes, the measurement of water flowing from streams, the computation of heights by the aneroid barometer, and corrections for compass readings (1913). The two last-mentioned items were specially worked out for the present edition.

Messrs. Emmott & Co., Ltd., of London and Manchester, have sent us a copy of the "Mechanical World" Electrical Pocket-Book for 1913, which contains nearly 300 pages of useful information for electrical engineers. The book is divided into sections dealing with dynamos and motors, measuring instruments, magnetic circuits, etc., and each section is illustrated by diagrams. The book is published at sixpence net.

The *City Diary* (W. H. & L. Collingridge, 148, Aldersgate-street, E.C.) celebrates its jubilee with the new volume. To the City man it cannot fail to be of daily usefulness, as it not only has space for the insertion of daily records, but it contains a large amount of information respecting the City of London, and is a reliable guide to all its institutions. The diary portion, with three days to a page, is interleaved with blotting-paper, and cash columns are ruled on the several pages. The diary is published at 1s.

Messrs. Charles Letts & Co., Southwark Bridge Buildings, London, S.E. have sent us a selection of their well-known Diaries for 1913, from which we see that they have added several new editions. The success of their specialised Diaries last season, such as the Gardener's, School Boy's, Boy Scout's, etc., has induced the firm to issue others, such as the Poultry Keeper's Diary, the Girl Guide's Diary and Christmas Card Diaries, etc. The Christmas Card Diaries have been introduced, we are informed, with the idea of taking the place of the usually useless Christmas card; they are got up specially for this purpose. The Diaries include the self-opening tablet and the Insurance Coupon for 1,000*l.*, are well bound, and all have something to recommend them to the public, whose wants appear to be fully and admirably met by the publishers. In addition to the Diaries referred to we must make special reference to "The Nature-Lover's Diary," edited by "Lorna Leigh." It is intended, in the words of the lady editor, "to record nothing but sunny hours, and to be a journal of happiness only, if possible." It is a charming little gift book, and contains reproductions of nearly 100 water-colour sketches by Mr. Duncan Moul.

LEGAL COLUMN.

The London Building Act.

The question as to whether, when the Borough Councils are executing work in their capacity of sewerage authorities, they are compelled to give building notices to the District Surveyors if the operation they are carrying out affects or comes within 3 ft. of any building is one of extreme importance to the Borough Councils. Two cases have recently come before the magistrates. The first, the District Surveyor for Deptford *v.* Etherington, will be found in our "Law Reports" for July 5, and the second case, the District Surveyor for Bermondsey *v.* Angel, was reported as to the arguments in our issue of December 20, and in our last issue, p. 792, we published the decision in our "Law Reports." In both cases the work being carried out was the reconstruction of a sewer which necessitated excavations under or in close proximity to buildings; but in the first of the two cases it appeared that the concrete forming part of the foundations had been disturbed and had to be made good, and in this case a fine was inflicted for the failure to give a building notice. In the second case it would seem that no part of the fabric was touched, the connexion with the sewer being made at some depth below the houses; but this fact was not material to the judgment delivered by the magistrate, by which the summons against the Borough Surveyor was dismissed with 12 guineas costs, because he expressly stated that the amount of interference with the subsoil did not affect his decision. This judgment proceeded on the ground that operations done in carrying out the construction of a sewer, even if incidentally they affect buildings, are not "structure or work," of which notice has to be given to the District Surveyor under sect. 145 of the London Buildng Act, 1894.

We discussed this question in a note in our issue for July 5, and it is difficult for us to add anything to the observations we then made. The first of the above cases is not very clearly reported, and it is not plain whether the magistrate in that case held that the operation being carried out was "structure or work," the commencement of which necessitated notice being given under sect. 145.

The duties of District Surveyors as to excavations made within 3 ft. of buildings, as we pointed out in our former note, are imposed by by-law, which the London County Council has authority to make under sect. 168 of the London Building Act; but the duty to give notice is a statutory duty under sect. 145. The by-law, as we observed before, seems to be framed in terms, upon which it may be argued that the notice required is only where some work or structure is being commenced under sect. 145, the case of excavations being covered by the expression "or on his becoming aware," the by-law is as follows:—"It shall be the duty of each District Surveyor, on receiving notice of the commencement of any house, building, or other erection, or on his becoming aware that any house, building, or other erection is being proceeded with, or that any excavation is being made within a line drawn outside the site of any house, building, or other erection, and within 3 ft. therefrom, to see . . . that any excavation be filled up with the material and in the manner specified by the foregoing by-laws."

The decided cases do not throw much light on the question. The magistrate in the Bermondsey case considered that the reasoning in the case Venner *v.* McDonell ("Law Reports," 1897, 1 K. B. 421), was applicable to the facts before him; but in that case the Court had to consider whether the erection of certain movable seating in the Agricultural Hall was "building structure or work" within the section. The Court held that the words must be construed as indicating something of the same nature and character as a building. Other considerations, however, arose in that case, but all it decided was that the replacing of the seats in question was not the beginning of a structure within sect. 145.

It is to be hoped that a decision of the High Court may soon be obtained on the points raised in these two cases before the magistrates. The points appear to be two-fold:—(1) If the Borough Councils, in carrying out their duties in connexion with the sewers, touch the foundations or fabric of a building, is this a matter of which notice must be given to the District Surveyor under sect. 145? (2) Where an excavation is made within 3 ft. of a building in the course of such operations, is there any provision in the London Building Act, or the by-laws made thereunder, which compels notice to be given to the District Surveyor?

LAW REPORTS.

OFFICIAL REFEREE'S COURT.

(Before MR. EDWARD POLLOCK.)

Pethick Brothers *v.* Metropolitan Water Board: Contractors' Claim Fails.

MR. POLLOCK, on December 20, gave a reserved judgment in the action brought by Messrs. Pethick Brothers, contractors, of London and Plymouth, against the Metropolitan Water Board. The plaintiffs alleged breach of contract on the part of the defendant Board in terminating a contract under which the plaintiffs agreed to construct for the defendants a reservoir and filter-beds in 1907 at Long Ditton, Surrey. The Water Board put an end to the contract in October of that year.

A summary of the plaintiffs' and defendants' contentions has already been printed in our columns.

In the course of his judgment, the Official Referee said that, in his opinion, from the evidence called on behalf of the plaintiffs, it was abundantly clear that there had been great delay on their part in the execution of the work, and it had been admitted that there was absolute inability to complete the works within the time limited by the contract. He was of opinion that for that delay no blame was attributable to the Water Board. Nothing took place, Mr. Pollock also held, to justify any supposition that the Board waived or gave up their right to insist on the performance by the contractors of the whole of the contract within the specified time. Regarding the plaintiffs' allegations as to loss of profits consequent upon the termination of the contract, Mr. Pollock said that certainly there was no loss of profit to the plaintiffs: on the contrary, if the contractors had been compelled to go on they would have sustained a very heavy loss. On the evidence before him, he found the Board were justified in acting on the certificate of the Engineer in taking possession of the works, as they did, and in terminating the contract.

Having intimated that he had found generally in favour of the defendant Board in respect of the claim, the Referee said that the question he had to determine on a future occasion was what the amount of damages which the Water Board were entitled to recover on their counterclaim in respect of expense to which they said they had been put to get the job completed by other contractors. There might be the other question, whether the contractors were entitled to anything in respect of that claim beyond that agreed upon between the surveyors.

Answering Counsel, Mr. Pollock said he would not deal with the question of these costs until he gave the final judgment.

HIGH COURT OF JUSTICE: CHANCERY DIVISION.

(Before Mr. Justice PARKER.)

J. Aird & Co. *v.* the Tanjong Pagar Dock Board: The Heavy Claim by and against Contractors.

AFTER a forty-two days' hearing, the learned Judge, on the 20th ult., after stating his findings of fact with regard to the charges of fraud contained in the statement of claim, reserved his judgment on all points of fact and law in these consolidated actions.

As already stated, the plaintiffs, the well-known contractors, claim from the defendants 500 000*l.* as damages for alleged breach of contract in connexion with the construction of a wet dock at Singapore. They alleged that

the defendants had misrepresented the conditions under which the contract was to be carried out, and therefore that they were justified in repudiating the contract. Defendants denied these allegations, and claimed 1,000,000*l.* from the executors of the late Sir John Aird, who in his lifetime was a member of the plaintiff firm and a party to the contract, as damages for breach of contract.

At the close of the addresses of Counsel, his Lordship said he proposed at once to state his findings of fact with regard to the charges of fraud contained in the statement of claim. He took that course because, during the trial, the parties, upon his suggestion and with his assistance and approval, m effect arranged terms of settlement, and (as he understood) the matter would have long since been finally disposed of but for these charges of fraud. He fully appreciated the difficulty of compromising an action in which a charge of fraud was raised; but he was not without hope that his findings of fact would entirely remove the difficulty in the present case. First, then, he found that the contract drawings contained a distinct and inambiguous representation to the effect that timbered trial pits had at the points shown thereon been sunk down to the hard, and, there being no statement to the contrary, he thought that that involved the further representation that the usual method of timbering such pits, viz., by runners in settings, had been employed. He had, however, come to the conclusion that the contract drawings did not contain any representation as to the dimensions of the trial pits at the surface. He thought that all the drawings, on which the pits were shown, ought in that respect to be treated as diagrammatic only. Secondly, he found that the representation that trial pits had at the points shown on the contract drawings been sunk to the hard, with its further implication as to the method of timbering, was a material representation; that was to say, a representation calculated to induce contractors of ordinary intelligence and prudence to tender for the work, and to tender at a less price than they might otherwise have done. The fact that a trial pit had been sunk with runners and settings at any particular spot did not itself justify an inference that a trench could be similarly sunk in the neighbourhood of the pit, but it might, nevertheless, coupled with other facts, have, in his opinion, considerable influence in determining a contractor to tender for contract works. In the present case, having regard to the position of the two pits and the result of the borings shown on the contract drawings, he thought the contractors might legitimately infer that the ground in which the contract works were to be carried out would probably be of the same nature and character as that met with in the trial pits. He further thought that the contract drawings and specifications showed that the engineers had assumed that the ground was good ground, in which there was, at any rate, a reasonable possibility of getting the trenches down with runners and settings. It might be that all risk in that respect was, according to the contract, to be undertaken by the contractors; but the fact that the two trial pits had been sunk to the depths shown was, in his opinion, calculated to diminish this risk in the eyes of a prudent contractor.

Thirdly, he found that the contractors, in tendering for the work and in fixing the figure of their tender, did, in fact, rely on the representation in question. In that respect he fully accepted Mr. Liddle's evidence. His Lordship's next point was that he felt the representation, in fact, to be untrue. The trial pits, though sunk in the usual way with runners and settings had not, as shown on the drawings, been sunk to the hard, but approximately to the level of dock bottom only, a difference of great importance, especially in the case of trial pit No. 2.

Having referred to the evidence given by Mr. Warren, Mr. Wilson, and Mr. Nicholson, his Lordship said he had no doubt that the Crown Agents, who actually sent out the contract drawings, had relied, and properly relied, on the drawings having been checked by the engineers, and never for a moment suspected that they contained any misrepresentation. He thought that the misrepresentation was due to a blunder brought about by carelessness and inaccuracy, and he was satisfied that none of the persons concerned had any intention or desire to deceive or knowingly made any misstatement. Lastly, he found, without any hesitation, that the charges contained in the statement of claim of intentional and fraudulent concealment, or suppression of material facts, had been fully disproved. That part of the statement of claim, which was based on any such concealment or suppression, in his opinion, entirely failed.

As before stated, his Lordship reserved his judgment upon the other points of fact and law till next sittings.

OFFICIAL REFEREE'S COURT.
(Before Mr. MUIR MACKENZIE.)

Work at a Country House: Wayman & Co. *v.* Geiger.

JUDGMENT was given on December 21 in an action brought by Mr. Leonard Partridge, trading as Messrs. Wayman & Co., of 25, Baker-street, Portman-square, against Mr. Frank Geiger, of The Almners, Chertsey, against whom the claim was for 454*l.* 19s. 3d., balance of a total of 1,154*l.* 19s. 3d., for building work carried out at Mr Geiger's country house at Chertsey. The contract between the parties consisted of a signed specification by which the plaintiff agreed to do the work mentioned in the specification for 800*l.* The work consisted principally of building a new dining-room, where a kitchen had been, a new kitchen and butler's pantry, a new bathroom, and various domestic offices. The work described in the specification was done, and, according to the evidence of those who represented the plaintiff, it was finished about the end of February. In March, after plaintiffs considered they had completed the work, they sent in an account consisting of 800*l.*, and 354*l.* 19s. 3d. for extra work, for which the plaintiffs alleged that they were entitled to be paid. The defendant, in effect, contended that he was entitled to deductions, and alleged that there had been overcharges.

Mr. Muir Mackenzie, giving judgment, said that at the trial before him the evidence on behalf of the plaintiffs was that the charges were fair and reasonable. He said that the conflict of evidence and the long delay that had arisen by reason of the agreement between the parties made it little short of impossible to decide as to what were the true facts concerning the matters in dispute. He held that Mr. Geiger's defences had failed, and he must, therefore, give judgment for the plaintiffs for the full amount claimed, together with costs of the action.

Mr. Lever, for the defendant, asked for a stay of execution, and the Official Referee assented, remarking that he had decided against Mr. Lever's client on questions of law. There would, said the Official Referee, be a stay till the first day of next sittings, and if an appeal were entered, the stay would continue until the hearing of the appeal.

LONDON COUNCILS.

Barking.—The Surveyor has prepared a scheme for the continuance of St. Paul's-road to the junction of Abbey-road and Heath-street. The matter has been referred to the Housing and Town Planning Sub-Committee for consideration. It has been decided to communicate with the owners concerned with regard to the making-up of Bennington-avenue. The cost of such improvement is estimated at 110*l.* The following plans have been passed:—Mr. J. Graffy, fifty-six houses, Essex-road; Mr. A. Burch, seven houses, Cranborne-road; Messrs. Fosbery & Co., Ltd., factory. London-road; Mr. J. Ranson, thirty houses, Aldersey-gardens.

Brentford.—Plans have been passed for Mr. J. J. Fuller for the erection of six houses in Ivy-crescent.

Croydon (Borough).—At the last meeting of the Council the Street Improvements Committee recommended that the plans submitted by the Borough Engineer for widening North End on both sides, and for an improvement of Crown-hill, be adopted. The estimated cost is put at 164,000*l.* In moving the adoption of the Report, Councillor Field said that postponement of the question would be unfair, as the cost would be increased enormously. He referred to the premises of Messrs. Allder. Plans had been passed for an entire rebuilding on a very large scale of the whole of the buildings. At the present time they could treat with the firm for acquiring a small portion of their premises, but if they allowed them to rebuild they would be unlucky if they did not, before the rebuilding, come to terms with them in some way, because it would be a large store, and the cost of acquiring it would be tremendous. A considerable discussion ensued, the contention of the opposition being that no scheme should be approved which did not include the widening of George-street, and which it is proposed to leave out under the Committee's proposal. In the result it was decided to support the Committee. Additions are to be carried out to the tramway offices, and a temporary office erected for the Engineer at an estimated total cost of 1,200*l.* Plans have been passed for Mr. A. C. F. Duckett, 18, Addiscombe-avenue, Croydon, and Messrs. Higgins & Thomerson, 87, Finsbury-pavement, E.C., for the erection of thirty-two houses in Bingham-road, and eight in Macclesfield-road, respectively.

Croydon (Rural).—The tender of Mr. E. Ilesson., Katharine-street, Croydon, has been accepted at 350*l.* for making up Arnold-road, Mitcham. Tenders were also received from Messrs. J. May & Sons, Ashtead, 388*l.*; Messrs. J. Mowlem & Sons, Westminster, 416*l.*; Mr. A. L. Etheridge, Old Kent-road, S.E., 437*l.* 17s. 3d.; and Messrs. E. Free & Sons, Maidenhead, 443*l.*

Finchley.—A temporary pumping-station is to be erected at an estimated cost of 525*l.* Application is to be made to the Local Government Board for authority to prepare a town-planning scheme for the area known as the Limes Estate.

Hemel Hempstead.—At the last meeting of the Joint Isolation Hospital Board plans by Mr. Mead for the erection of the proposed new hospital at an estimated cost of 6,390*l.* were considered. The Chairman explained that the instructions to the architect were for a hospital of twenty beds. He said he had consulted Mr. Locke, the original architect for the scheme, and he proposed to compare his scheme for a hospital with twenty-two beds at a cost of 5,667*l.* (which could probably be reduced) with Mr. Mead's. The Rev. F. Halsey said that Mr. Locke's estimate was submitted about ten years ago, and since then the price of materials had gone up. The Chairman said he saw no earthly reason why they could not provide a hospital such as they required, of twenty beds, for something less than the figure quoted by Mr. Locke for twenty-two beds. The Rev. F. Halsey said that it all seemed a waste of time. Mr. Locke had refused to prepare plans, and Mr. Mead was appointed. He strongly objected to Mr. Locke's scheme being produced, as he contended that Mr. Mead was their architect. The Chairman said that at the time Mr. Mead was engaged the instructions were that he should proceed on Mr Locke's scheme. Mr. Mead said that all the instructions he received was that he was given the accommodation in Mr. Locke's scheme—that was to say, the number of beds. The Chairman said he did not quite agree with that. The number of beds provided in Mr. Locke's scheme was twenty-two. Without any authority so far as he could see the architect went and provided an expensive and elaborate scheme for twenty-four beds, whereas the Local Government Board requirements only demanded twenty beds. Now it was the duty of the Board to go back to Mr. Locke's scheme and Mr. Locke's plans. The Rev. F. Halsey said that the change of plans arose out of a discussion at the meeting of the Board. Mr. Mead: That is so. I brought the plans, and they were altered here. The Rev. F. Halsey said the architect did not alter his plans without authority, and the Chairman had no right to say that the architect prepared his plans without authority. Mr. Mead then explained, in justice to himself, several items to the total value of 643*l.*, which he included in his estimate and were not included in Mr. Locke's. These figures, he said, should be taken into consideration if the comparison was to be a fair one. The Chairman: If we can get all the accommodation we require for 5,000*l.*, there is no reason why we should pay 6,000*l.* for it. Mr. Lacey: Mr. Locke's plans have never been before the Local Government Board; they might have been altered by the Board, as Mr. Mead's have. The Rev. F. Halsey said that the Chairman's suggestion seemed a very extraordinary thing after the Board had appointed Mr. Mead their architect. It was neither fair to their architect nor to Mr. Locke. The Chairman: It is not a question of fairness to the architects, but fairness to the people who have to find the money. The Mayor said he did not agree that the only consideration should be the ratepayers. There was another element they must consider, and he thought it would be a great pity for any public body to sacrifice their relations with honourable men, whom they employed to do a duty, simply to get a cheap result. Mr. Mead said he could not understand why there should be such a lot of talk about the amount of the estimate. His scheme only worked out at 302*l.* per bed, and out of a long list of hospitals quoted by the Local Government Board only three were built for less than 300*l.* per bed. His experience of building to-day was that it cost 15 per cent. more than ten years ago. In the result it was decided to have Mr. Locke's plans, if available, put before the Board for comparison.

Heston and Isleworth.—The following plans have been passed:—Messrs. P. Chase Gardener & Co., alterations to "Hounslow Alcaza," Staines-road, and house, St. Mary's-crescent, Spring-grove; Messrs A. & B. Hanson, additions to receiving-house, North Hyde Orphanage; Mr. F. Secrett, six houses, Vicarage Farm-road, Hounslow.

Hornsey.—For the erection of new laundry buildings at the Borough Isolation Hospital the tender of Mr. H. Pickrill, 24, Canning-road, Wealdstone, has been accepted, at 2,745*l.* 13s. 10d.; while the tender of the Alphous Custodis Chimney Construction Company, 119, Victoria-street, S.W., has also been

accepted, at 114*l.* 10s., for erecting a chimney-shaft.

Islington.—Electricity mains are to be extended at an estimated cost of 1353*l.* The brick sewer in Gibson-square is to be put into thorough repair, including the construction of a new invert formed of stoneware channel pipes embedded in Portland cement concrete, and laid to a uniform gradient on the present invert, at an estimated cost of 333*l.*

Kingston.—Woodbines-avenue is to be made up.

Lambeth.—A portion of the carriageway of York-road is to be repaved with 2-in. compressed asphalt, in substitution for the existing hard-wood paving, at an estimated cost of 1,062*l.* The necessity of providing swimming baths at Brixton has been brought under the notice of the Council. A plan has been passed for Mr. Jas. Watson to drain three houses, proposed to be erected in Idmiston-road, West Norwood.

Middlesex.—Dr. C. W. F. Young, Medical Officer of Health for the County, has just issued his report for the year 1911. Dealing with the housing conditions of the county, he reports as follows:—

Brentford.—No appeals were lodged with the Local Government Board against any closing or demolition orders made by the District Council. The practice adopted is to call the attention of the owner to the property and to ask for an interview, which request is readily granted, and in this way the condition of the property is brought home to the owners.

Ealing.—House-to-house inspection under sect. 17 of the Housing Act was made of 227 houses. Of this number improvements (relating to ventilation, remedying of dampness, alteration in drainage, and various repairs) were carried out in 189 cases. During the last decade the Sanitary Authority have acquired land and erected 121 model cottages (eighteen of which are constructed as flats) for the working classes. At the present time there is ample and adequate accommodation in the borough for the working-class population.

Edmonton.—There is a sufficiency of houses in the district for the working classes.

Enfield.—The housing accommodation in this district is sufficiently adequate for its need; 1,229 houses were inspected.

Feltham.—The house accommodation for the working classes is fairly adequate, but rents are still high. As the result of a recent inquiry, it was found that there were fifty-six houses vacant at rents of 4s. 6d. to 7s. 6d. a week, and that there is a tendency towards the occupation of single houses by two families, with the risk of the occurrence of overcrowding.

Finchley.—There appears to be no lack of accommodation to meet the needs of most of the working classes. Many of the newer small houses are only obtainable at rents which are somewhat beyond the means of ordinary artisans, but this difficulty has been solved by landlords letting off some of the houses in tenements. The District Council has erected sixty workmen's dwellings under the Housing of the Working Classes Act. Systematic house-to-house inspection is carried out, and there are at present no houses which are in an uninhabitable condition.

Friern Barnet.—The existing house accommodation is reported to be sufficient.

Greenford.—A Town Planning Committee has been constituted, and the District Council have decided to prepare a scheme of town planning for the whole of the parishes of Greenford and Perivale. Details of the scheme are being prepared with a view to application being made to the Local Government Board. The housing accommodation of the district is at present satisfactory.

Hampton.—The housing accommodation is sufficient for the present needs of the district.

Hayes.—A vigorous attempt has been made to deal with insanitary property. Twenty houses were closed voluntarily. The District Council have decided that until more houses are built it is not possible to deal effectively with old sanitary cottages which are not fit for human habitation. They have accordingly acquired land and applied for sanction to a loan for the erection of fifty-one cottages to accommodate persons displaced in dealing with insanitary property.

Hendon.—The Urban District Council have approved a site for the erection of artisans' cottages, and plans have been prepared and are awaiting the approval of the Local Government Board. Sects. 14 and 15 of the Housing Act are practically inoperative in the district, as houses and tenements are, with few exceptions, of higher rental value than 16*l.* per annum. It is suggested that this rental value might be made higher for districts adjoining London.

Hornsey.—The Town Council have commenced the building of additional cottages in extension of the existing Highgate scheme, which will provide 128 independent cottages of two classes. One class will contain a living-room and two bedrooms, with scullery, larder, coal store, and water-closet; the other will have only two bedrooms. On the completion of these the Borough Council will have provided 412 cottages in addition to twenty-four tenement dwellings.

Ruislip-Northwood.—There is a need of proper sanitary cottage accommodation for the working classes throughout the whole district, more especially in Ruislip and Eastcote. In the Northwood part of the district the need for cottage accommodation is due to the fact that there are no cottages of a rent that can be afforded by one family. In Ruislip and Eastcote there is also a scarcity of cottage accommodation at a low rent, and, although the average rental is lower than in the Northwood portion of the area, many of the cottages are old, in a generally dilapidated condition, and are probably so worn out that they are not capable of being made satisfactory.

Southall-Norwood.—The housing accommodation is adequate for the needs of the district.

Southgate.—In order to meet the difficulty which arises in connexion with the closing of insanitary houses owing to the need of other houses of a suitable character and sufficiently low rental, the District Council erected thirty-four houses at Palmer's Green during the year, and additional cottages are to be erected at Southgate and at Winchmore Hill.

Staines (Urban).—The housing accommodation is said to be adequate for the needs of the district.

Uxbridge (Urban).—There is great need of cottages at a cheap rental, and also of houses of 60*l.* to 80*l.* a year.

Uxbridge (Rural).—There is, in this district, a scarcity of workmen's dwellings, and the need is specially great in Harefield. Owing to the enlargement of the asbestos mills, the need will become greater in the future.

In view of the fact that the London County Council do not propose at the present time to proceed with the London portion of the scheme for a western approach to London through Middlesex, negotiations are to be carried out with the Road Board, or any other authorities concerned, with regard to so much of the proposed scheme as is within the county of Middlesex. Consent has been given to the Willesden Urban District Council to substitute rock asphalt for creosoted deal blocks in a portion of Malvern-road, also the Isleworth Urban District Council to widen Heston-road to 50 ft. A resolution has been passed to the effect that, as the application of the bituminous method of road maintenance has been necessitated solely by reason of motor traffic, and as the Road Board decide upon the specific works for which grants are to be made, and require certified accounts in detail of the actual expenditure to be rendered to them, the County Council is of opinion that the grants made by the Board should be equivalent to the whole of the increased expenditure, and not be limited to a percentage of the increased cost. The tender of Mr. W. J. Dickens, Ealing, has been accepted at 718*l.* for the erection of wall to enclose the site of the proposed court-house at Ealing. It is proposed to enlarge the Clarendon-road School, Ashford, so as to provide additional accommodation for about fifty children.

Wealdstone.—There is ample house accommodation in this district, but the rental of those available for the artisan class is very high in proportion to their earnings.

Yiewsley.—The District Council will shortly consider the question of the erection of houses for the working classes.

Poplar.—Twenty-three roads in various parts of the borough are to be repaired during the ensuing quarter at an estimated cost of 1,529*l.*, while general repairs are to be carried out to carriageways, footways, bridges, etc., at an approximate cost of 911*l.* Three other roads are to be relaid with wood blocks, and Woodstock-road paved with creosoted deal blocks at an estimated total cost of 930*l.* Plans have been passed for Messrs. Kirk & Randall, Ltd., for the erection of additions to Alpha Works, Wharf-road, also for Messrs. Holloway Bros. (London), Ltd., and Messrs. Andrews & Peascod for constructing additions to St. David's Wharf, West Ferry-road, and for the erection of parochial buildings in Avenue-road respectively.

Rickmansworth.—The Highways Committee are considering the question of putting the Private Street Works Act in force as regards Wharf-lane.

Tottenham.—The Council has been recommended to erect cottages at the rear of the proposed central fire-station as residences for permanent married firemen, also to expend a sum, not exceeding 4,500*l.*, for the erection of such fire-station and cottages. The question of inviting competitive designs for the new buildings has been deferred.

Thames Ditton.—Improvements are to be carried out at St. Leonard's-road, Claygate, at an estimated cost of 282*l.*

Walthamstow.—Application is to be made to the Local Government Board for sanction to borrow 202*l.*, the estimated cost of carrying out improvements in Church Hill. The Engineer has been directed to prepare a plan, specification, and estimate of the cost of making-up Empress-avenue. For carrying out alterations and additions to the permanent way, the Tramways Department has accepted the tender of Mr. G. P. Trentham, at 16,692*l.* Plans have been passed for Mr. J. Dunn for the erection of 285 houses and nine shops in certain roads in the district. Plans have also been approved for Mr. D. Baker and Mr. H. H. Iles for six houses in Shakespeare-road and Aveling Park-road respectively.

OBITUARY.

M. Detaille.

The death in Paris on December 23 is announced of M. Edouard Detaille, Grand Officier, Légion d'Honneur, Hon. K.C.V.O. (1897), aged sixty-four years. M. Detaille was a pupil of Meissonier, whose studio formed the subject of the first picture he exhibited in the Salon, 1867; to this succeeded his "Halte des Tambours" (1868). M. Detaille saw service during the Franco-Prussian War in the Gardes Mobiles, and as Secretary to Generals Pajol and Appert. He turned his experiences to account in the painting of many military pictures, one of the earliest being "Les Vainqueurs" (Salon, 1872). In the interval, 1874-9, he exhibited "Charge des Neuvième Cuirassiers à Morsbrünn," "L'Alerte," "Salut aux Blessés," "Le Barbier au Bivouac," "L'Observation dans un Moulin," "En Reconnaissance," and "Le Régiment qui passe" (Porte St. Denis, Paris). In 1900-10 he painted "La Chevauchée" for the Panthéon, and executed a series of decorative paintings for the Hôtel de Ville, Paris, comprising "Les Journées de 1830" and "Le Retour de la Grande Armée après la Bataille d'Austerlitz." At Windsor Castle are his equestrian portraits of King Edward VII. and the Duke of Connaught. Of his other more notable pictures we may mention "Le Rêve" (1888), "La Tour de Londres," and "Scots Guards, Retour de l'Exercice" (1896), "Les Victimes du Devoir," "Sortie de la Garrison de Huningue en 1815," "En Batterie," "Les Dernières Cartouches," "La Revue de Chalons," "Bonaparte en Egypte," "Défense de Champigny," "Le Soir de Rezonville," "Le Chant de Départ," and, with de Neuville, a panorama of the battle of Mars-la-Tour, and, for the Tsar of Russia, "Revue de Bétheny." M. Detaille was Président d'Honneur de la Société des Artistes Français, Membre d'Académie des Beaux-Arts, and de l'Institut, Grand Cordon de l'Ordre de St. Stanislaus de Russie, Commandeur de l'Ordre de la Couronne de Prusse, and de Leopold de Belgium, etc. He has bequeathed to the Society of the History of Costume his house, No. 129, Boulevard Malesherbes, with all its contents, and a sum of 8,000*l.* for its structural alteration as a museum of his pictures and drawings, and his collection of military uniforms, weapons, and appointments.

Mr. F. J. Smith.

The death, on December 27, at his residence, Great Bradley, Newmarket, Suffolk, is announced of Mr. Francis James Smith, of Parliament-mansions, Victoria-street, S.W., in his sixty-eighth year. Mr. Smith was elected a Fellow of the Royal Institute of British Architects in 1891, and practised latterly with Mr. Francis Danby Smith, A.R.I.B.A. Mr. Smith was the architect of (for the St. Leonard, Shoreditch, Guardians) the Cottage Homes, Hornchurch, and the Nurses' Home, Shoreditch Workhouse Infirmary, 1887-94; of the Public Library, Westminster; Great Smith-street, Westminster, Baths and Washhouses; and St. George's Public Baths, Buckingham Palace-road, S.W., 1890-2; Public Library, Disraeli-road, Putney, in competition, 1899; and as architect to the Board of Guardians, Paddington, he carried out numerous extensive works in 1899-1908, comprising the new Board-room and offices, the receiving and casual wards, and reconstruction and enlargement of the workhouse in Harrow and Woodfield roads, Nurses' Home, relieving offices, dispensary, and so on. Mr. Smith was the architect of the baths and washhouses, Nine Elms-lane, in competition, for Battersea Borough Council, 1899-1902; warehouses, Great Guildford-street,

OBITUARY—*continued on page 31.*

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, —; Contracts, iv. vi. viii. x. xii.; Public Appointments, xxxi.; Auction Sales, xl. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

***** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.**

Competitions.

JANUARY 31. — **Hemel Hempstead.**—HOUSING SCHEME.— Premium 20*l.* Particulars from the Town Clerk, Hemel Hempstead. Deposit, 1*l.* 1s.

JANUARY 31.—**Jamaica.**—MUNICIPAL BUILDINGS. —To cost 9,000*l.* Premium 100*l.* Particulars from Messrs. Young, Ltd., 60, Fenchurch-street, E.C. (2s.)

FEBRUARY 3. — **Harrogate.** — SCHOOL. — The Harrogate Education Committee invite designs for a Council school in Skipton-road. See advertisement in issue of November 1, 1912, for further particulars.

FEBRUARY 4.—**Hayti.**—DESIGNS FOR A NATIONAL PALACE AT PORT-AU-PRINCE.—See "Competition News," December 20, 1912, page 748

FEBRUARY 15. — **Winnipeg.** — CITY HALL. — Limited to British architects in Canada. Assessor, Mr. Leonard Stokes, F.R.I.B.A.

FEBRUARY 22. — **Jordanhill, Glasgow.** — PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, 1911, page 635.

MARCH 1.—**Rangoon.**—MUNICIPAL BUILDINGS.— The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings. Honoraria of 300*l.*, 200*l.*, and 100*l.* respectively for first, second, and third. See advertisement in August 2 and 30, 1912, for further particulars.

MARCH 1. — **Sofia.** — DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. (see page 173, August 9, and page 350, September 27, 1912).

JULY 10. — TOWN-PLANNING SCHEME. — Promoted by the Institution of Municipal and County Engineers. Premiums, 10 guineas, 7 guineas, and 5 guineas.

NO DATE.—**Folkestone.**—PROPOSED KURSAAL.— Cost not to exceed 20,000*l.* Premiums 100, 50, and 25 guineas. See "Competition News," page 542, November 8, 1912.

NO DATE.—**Motherwell.**—HIGH SCHOOL.—Dr. Burnet, assessor. Premiums 50*l.*, 30*l.*, and 20*l.*

NO DATE. — **Worthing.** — NEW CHURCH.— Sketch plans are invited for a church to be erected in South Lancing, to cost, when completed, from 4,000*l.* to 5,000*l.* See advertisement in issue of December 13, 1912, for further particulars.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

JANUARY 3. — **Newbridge.** — ADDITIONS, ETC.— For alterations and additions to the police-station. Plans and specification with Mr. William Tanner, F.S.I., County Surveyor, Newport, Mon. Deposit of 1*l.* 1s. for quantities.

JANUARY 3. — **Warminster.**—ADDITIONS.—For proposed additions to Downside, Warminster. Drawings and specifications with Mr. A. F. Long, architect, 53, Market-place, Warminster.

JANUARY 4.—**Wycombe.**—ADDITION.—For small addition to lavatory accommodation at the Union House, Saunderton Particulars from the Master

JANUARY 6. — **Great Missenden.**—COTTAGE.— For erection of a police cottage at Twitchell-road, Great Missenden. Plans and specifications seen, and forms of tender and particulars from Mr. R. J. Thomas, M.Inst.C.E., County Surveyor, County Hall, Aylesbury.

JANUARY 6. — **Southmoor.** — CULVERT.—For building a brick culvert at Hustle Down, near South Moor. Plans, specifications, and conditions of tender from Mr. A. Routledge, Surveyor.

JANUARY 7.—**Church Stretton.**—STATION.—The London and North-Western and Great Western Joint Railway invite tenders for the erection of a station at Church Stretton. Drawings, general conditions, and specifications seen, and forms of tender and quantities at the office of the Engineer at Shrewsbury Station.

JANUARY 7.—**Enrie.**—COTTAGE.—For double cottage to be erected on the farm of Cuttlebrae, Enrie. Plans and specifications at the Estates Office, Fochabers.

JANUARY 7.—**Poole.**—CONVENIENCES.—For erection of public conveniences at the Sandbanks Pleasure Grounds. Plans and specifications seen, and particulars from Mr. S. J. Newman, F.R.I.B.A., Borough Surveyor, Municipal Offices, Market-street, Poole.

JANUARY 7.—**Rottingdean.**—WORK.—Enclosure of the verandas of the new infirmary at the Warren Farm Schools, Rottingdean. Information from Mr. J. W. Hawker, architect to the Guardians, Central-chambers, North-street Quadrant, Brighton.

JANUARY 8. — **Crumpsall.** — ALTERATIONS.—For alterations to the cookhouse at Workhouse at Crumpsall. Plans seen, and quantities from Mr. A. J. Murgatroyd, architect, 23, Strutt-street, Manchester, on deposit of 10s. 6d.

JANUARY 8. — **Echt.** — HOUSE.—For new cottar house to be erected at West Cullerley, Echt. Plans and specifications with Mr. William Thomson, gamekeeper, Cullerley, Echt. Messrs. Burnett & Reid, 12, Golden-square, Aberdeen.

JANUARY 8. — **Loughlinstown.**—STACKS.—For taking down and re-erecting three chimney-stacks on the Workhouse premises. Mr. P. Cunniam, Clerk, Clerk's Office, Loughlinstown.

JANUARY 9.—**Antrim.**—RESIDENCE.—For building caretaker's residence and laying-out of grounds, etc., in connexion with proposed new burying ground at Rashee. Plans and specifications with Mr. J. L. Clark, Clerk, Council Offices, Workhouse, Antrim.

JANUARY 9. — **Bath.** — WALL, ETC.—For pulling down the old wall, excavating for and building to an improved line new masonry wall in Fairfield-road, and works incidental thereto. Specification, plan, and information at the City Surveyor's Office, Guildhall, Bath.

JANUARY 9. — **Cleethorpes.** — PAVILION.—For erection of new pavilion at Elm-gardens, Elm-road, Cleethorpes, for the Cleethorpes Bowling Club, Ltd. Plans and specifications at the present pavilion, Elm-gardens

JANUARY 9.—**Gainford.**—HOUSE.—Erection of a farmhouse and steading at Ingleton Village, near Gainford. Plans and specifications at the Small Holdings Office, 48, Old Elvet, Durham.

JANUARY 9.—**Maryport.**—COTTAGES.—The Maryport and Carlisle Railway Company invite tenders for the erection of four workmen's cottages at Dalston Station. Plans and specifications at the office of the Engineer of the Company, Maryport.

JANUARY 10.—**Kippax.**—ADDITIONS.—For additions to Kippax Council School. Plans seen, and specifications with quantities from the Education Architect, County Hall, Wakefield. Deposit of 1*l.*

JANUARY 11. — **Eastbourne.** — ADDITION.—For addition to the administration department of the Borough Sanatorium. Plans and specification seen, and form of tender from Mr. Wm. Chapman Field, Borough Architect and Building Surveyor, Town Hall, Eastbourne

JANUARY 11. — **Hadleigh.**—COTTAGES.—For the erection of eight cottages in two blocks of four in Angel-street, Hadleigh. Plans and specification seen, and form of tender from the architect, Mr. A. Ainsworth Hunt, 51, Abbeygate-street, Bury St. Edmunds.

JANUARY 11.—**Iwade.**—SCHOOL.—For the erection of a new Council school of special construction in steel and concrete, at Iwade. Plans and specification by the Committee's Architect, Mr. W. H. Robinson, M.S.A., Caxton House, Westminster, S.W. Deposit of 1*l.* for quantities.

JANUARY 11. — **Totton.** — ADDITIONS, ETC.—For alterations and additions to the cells and police-station at Totton. Plan, specification, and conditions of contract seen, and quantities from Mr. W. J. Taylor, County Surveyor, The Castle, Winchester. Deposit of 1*l.* 1s.

JANUARY 13.—**Carlisle.**—STORAGE.—For providing additional storage at Earl-street, Carlisle. Plans and specifications with Mr. G. Dale Oliver, F.R.I.B.A., County Architect, Carlisle.

* JANUARY 14. — **Bermondsey.**—UNDERGROUND CONVENIENCE — The Bermondsey B.C. invite tenders for an underground convenience. See advertisement in this issue for further particulars.

JANUARY 14. — **Doncaster.** — FLATS.—For the erection of thirty cottage flats in three blocks of ten each adjoining Wheatley-lane. Plans, specification, and general conditions at the Borough Surveyor's Office, 3, Priory-place, Doncaster. Deposit of 1*l.* 1s.

JANUARY 14. — **Dunston Hill.** — SCHOOL.—For erection of new infants' school at Dunston Hill; alterations and additions at North Brancepeth Council School. Plans, specifications, and general conditions of contract seen, and quantities for Dunston Hill School, at the office of Mr. M. Rushworth, Shire Hall, Durham; for North Brancepeth School, at the office of Messrs. Clark & Moscrop, Feetham, Darlington.

JANUARY 14. — **Hastings.**—COTTAGES.—For the building of two cottages at Forewood Waterworks. Drawings seen, and specification and form of tender from the Borough Engineer, Mr. P. H. Palmer, M.Inst.C.E., Town Hall, Hastings.

JANUARY 14.—**Hythe.**—LOCK-UP.—For the erection of a new lock-up at Hythe. Plans, specification, quantities, and form of tender from the County Architect, 86, Week-street, Maidstone.

JANUARY 14.—**Sealand.**—SCHOOL.—For erection of a public elementary school abutting to the Birkenhead main road and Farm-road, Sealand, Flint. Plans, specifications, and quantities from Mr. S. Evans, County Surveyor, County Offices, Mold. Deposit of 2*l.* 2s.

JANUARY 15.—**High Wycombe.**—ALTERATIONS. —For alterations to High Wycombe Post-Office. Drawings, specification, and a copy of the conditions and form of contract with the Postmaster, High Wycombe. Quantities and forms of tender at H.M. Office of Works, Storey's-gate, London, S.W. Deposit of 1*l.* 1s.

JANUARY 15. — **Kirkconnel.** — SCHOOL.—New public school to be erected at Kirkconnel. Plans and specifications with Mr. W. F. Crombie, architect, Irish-street, Dumfries.

JANUARY 15.—**Selby.**—HOUSE, ETC.—Erection of four new farmsteads and one new house at Selby. Plans seen, and specifications with quantities from the West Riding Land Agent, County Hall, Wakefield. Deposit of 1*l.*

JANUARY 15. — **Stratford-on-Avon.** — HEADQUARTERS. — For erection of new premises for "D" Squadron, Warwickshire Yeomanry, on land in Sanctus-street, Stratford-on-Avon. Names to Messrs. F. P. Trepass & Son, architects, 1, Church-street, Warwick.

* JANUARY 16. — **Winchmore Hill, N.** — LAVATORY BUILDINGS, ETC. — The Southgate U.D.C invite tenders for (*a*) lavatory buildings; (*b*) stables, open shed, storeroom, and messroom; (*c*) timber boathouse, at Grovelands Park. See advertisement in this issue for further particulars.

* JANUARY 20.—**Chester.**—ISOLATION HOSPITAL, ETC.—The County of Chester Asylum Committee invite tenders for isolation hospital, mortuary, workshops, and cottages. See advertisement in this issue for further particulars

JANUARY 20.—**Sheringham.**—WALLS.—For the construction of retaining walls, promenade, and shelter in the cliffs at the western end of the promenade, Sheringham. Drawings, specifications, etc., seen, and forms of tender, quantities, and particulars from Mr. F. Hall Smith, Engineer and Surveyor. Deposit of 2*l.* 2s.

* JANUARY 20 — **West Ham.** — SCHOOL.—The West Ham Education Committee invite tenders for a school clinic at the Balaam-street Council School. See advertisement in this issue for further particulars.

* JANUARY 21. — **Birmingham.**—FOUNDATIONS. —The Commissioners of H.M. Works and Public Buildings invite tenders for excavating, levelling site, and concrete foundations for new telegraph factory. See advertisement in this issue for further particulars.

JANUARY 21.—**Holyhead.**—ADDITIONS, ETC.—For alterations and additions to the Tabernacle Congregational church, Holyhead. Plans and specifications from Messrs. J. Owen & Thomas, F.R.I.B.A., architects and surveyors, Exchange-chambers, Holyhead.

* JANUARY 21.—**Kennington, S.E.**—ROOF VENTILATORS, ETC.—The Lambeth Guardians invite tenders for fixing new and repairing and painting old roof, ventilators, etc., at Workhouse, Prince's-road. See advertisement in this issue for further particulars.

JANUARY 21. — **St. Helens.**—SCHOOL.—For the erection of the Liverpool-road Council school, St. Helens. Deposit of 1*l.* 1s. for plans, specification, and quantities, together with conditions of contract, from the architects, Messrs. Biram & Fletcher, George-street, St. Helens.

* JANUARY 21. — **Upper Norwood, S.E.**—PARTITIONS.—The Lambeth Guardians invite tenders for sundry new partitions at children's infirmary. See advertisement in this issue for further particulars.

JANUARY 22. — **Graigberthllwyd.**—HOUSES.— For the erection of fifteen houses at Graigberthllwyd, Treharris, for the Graigberthllwyd Building Club No. 2. Plans, specifications, and form of tender from Messrs. Seaborne & Cayley, architects and surveyors, Hengoed, Cardiff.

* JANUARY 25.—**Harrow-on-the-Hill.**—PUBLIC OFFICES.—The Harrow-on-the-Hill U.D.C. invite tenders for new public offices. See advertisement in this issue for further particulars.

JANUARY 28. — **Worthing.** — SCHOOL.—For the erection of a new County High School for Girls on a site situated in South Farm-road, Worthing. Plans, specification, and conditions of contract seen, and quantities and form of tender from Mr. Haydn P. Roberts, F.R.I.B.A., County Education Architect, Worthing, on deposit of 2*l.* 2s.

* NO DATE. — **Beath (Fife).** — SCHOOL.—The Beath (Fife) School Board invite tenders for erection of a school. See advertisement in this issue for further particulars.

BUILDING—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

NO DATE. — **Halifax.** — HOUSES.—Erection of two houses in Cousin-lane, Ovenden, Halifax. Plans and specifications seen, and quantities from Messrs. Medley Hall & Son, architects, 1, Harrison-road, Halifax.

NO DATE.—**Horbury.**—SHOPS. ETC.—Erection of three shops and eight houses at Horbury. Messrs. C. W. Richardson, Son, & Will Bell, A.R.I.B.A., architects, 62, Westgate, Wakefield.

NO DATE.—**Leeds.**—ALTERATIONS.—Alterations and conversion of old Markland Arms for lodging-house, Saxton-lane, Leeds. Mr. Fred Mitchell, 9, Upper Fountaine-street, Albion-street, Leeds.

NO DATE.—**Metheringham.**—SCHOOL.—For the additions to be made to the Metheringham Church School. Tenders to the Rev. W. I. S. Rawson, Vicarage, Metheringham, Lincoln.

NO DATE. — **Scarborough.**—HOUSE, ETC.—Erection of a new house, lodges, garage, stables, etc., near Scarborough. Quantities, on deposit of 1*l.* 1s., from Messrs. C. W. Richardson, Son, & Will Bell, A.R.I.B.A., architects, 62, Westgate, Wakefield.

NO DATE.—**South Shields.**—SCHOOL.—For erection of Marine School of South Shields. Names to the architects, Messrs. T. A. Page & Son, King-street, South Shields with deposit of 2*l.* 2s.

NO DATE. — **Steeton.** — COTTAGES.—Erection of six cottages at Steeton for Mr. John DIXON, J.P. Plans seen, and quantities from Mr. James Hartley, architect, Skipton.

NO DATE.—**Wakefield.**—HOUSES.—For the erection of eleven houses at Acme-terrace, Porto Bello-road, Wakefield. Quantities from Mr. W. H. Ogden, architect, Peterson-road, Wakefield.

ENGINEERING, IRON, AND STEEL.

JANUARY 3. — **Dublin.** — HEATING.—For hot-water heating and ventilation at the new offices for the Commissioners of Public Works, St. Stephen's Green, Dublin. Drawings and specification on deposit of 1*l.*

JANUARY 7.—**Keighley.**—GASHOLDER.—For the erection of a 1,000,000 cubic ft. capacity gasholder, in steel tank, with guide framing, at Thwaites Works, for the Corporation Gas Committee. Drawings, specification, conditions, etc., at the Gas Engineer's Office, Cock-lane, Keighley.

JANUARY 7. — **Neath.** — BRIDGE.—For the erection of the above bridge over the Tennant Canal at Burrows Lodge, Briton Ferry-road, span 24 ft., with abutments, wing walls, retaining walls, fence walls, and pillars, constructed in concrete, with brickwork facing and steel reinforced concrete flooring. Drawings seen, and specification, quantities, form of tender, contract, and bond from the Engineer to the Council, Mr. D. M. Davies, M.Inst.M.E., Council Offices, Neath. Deposit of 1*l.* 1s.

JANUARY 8.—**Rye.**—ENLARGEMENT.—For the enlargement of service reservoir at Playden. Specifications, quantities, and form of tender from the Engineer, Mr. P. H. Palmer, M.Inst.C.E., Town Hall, Hastings.

JANUARY 9. — **London.** — PIPES, ETC.—For erection of steam pipes and valves and steam superheaters to four dry-back boilers at the Workhouse, Fulham Palace-road, W. Specification, form of tender and drawings from Mr. E. J. Mott, Clerk, 129, Fulham Palace-road, Hammersmith, W. Deposit of 2*l.* 2s.

JANUARY 11. — **Ilford.** — DESTRUCTOR.—For the erection of a refuse destructor, consisting of cells, flues, dust chamber, boilers, etc., and capable of destroying 120 tons of refuse per day of twenty-four hours. Particulars and form of tender from Mr. H. Shaw, M.Inst.C.E., Engineer and Surveyor to the Council, Town Hall, Ilford. Deposit of 5*l* 5s.

JANUARY 13.—**Harwich.**—PUMPS.—For erection of four motor-driven centrifugal pumps and one set of two mechanically operated motor-driven sewage rakes and screens, with all necessary switchgear, pipework, etc. Mr. T. Mills, A.M.Inst.E.E., Consulting Engineer to the Council, "Mancria," Melksham, Wilts.

JANUARY 14.—**Droitwich.**—RETORTS.—For erection of a setting of eight retorts, for the Gas Committee. Specifications, on payment of 1*l.* 1s., from Mr. F. Shewring, Engineer and Manager, Gasworks, Droitwich

JANUARY 14. — **Hastings.** — BRIDGE.—For the erection of a concrete and rolled-steel joist bridge over the Powder Mill Stream at Lower Pepper-in-Eye, about two miles from Battle Railway Station, Sussex. Plan and specification seen, and form of tender from Borough Engineer, Mr. P. H. Palmer, M.Inst.C.E., Town Hall, Hastings.

JANUARY 22.—**Norfolk.**—BRIDGE.—For the erection of a temporary bridge over the River Waveney, near Harleston, Norfolk, and also for a smaller bridge over the adjacent watercourse on the Suffolk side. Particulars from Mr. H. Miller, M.Inst.C.E., County Bridge Surveyor, 16, Museum-street, Ipswich.

JANUARY 27. — **Ipswich.**—RIVER WORK, ETC.—For river work, etc., in connexion with extension to condenser circulating water supply, which includes the building of a concrete intake chamber in the bank of the branch of the River Gipping (known as the Oil Mill River), the laying of a 24-in. bore pipe through the bank, concrete piers on either side of ditch, providing house over automatc valve, fencing, etc. Specification, with quantities, form of tender, and drawing, on deposit of 10s. 6d., from Mr. F. Ayton, M.Inst.E.E., Chief Engineer and Manager, Electric Supply and Tramways Departments. General offices, Constantine-road.

JANUARY 29. — **Atherton.**—SWITCHBOARD.—For erection of one extra-high-tension switchboard and one high-tension switchboard. Particulars from Mr. C. T. Astbury, Resident Engineer.

JANUARY 31. — **Ellesmere.**—MAINS, ETC.—For the laying of about 9,000 yds. of 4-in. and 3-in. cast-iron mains, together with the necessary sluice valves, fire hydrants, air valves, etc., in connexion with the Dudleston Heath water supply. Drawings seen, and specification and form of tender from the engineers, Messrs. Berrington, Son, & Watney, Prudential-chambers, Wolverhampton, and 28, Victoria-street, Westminster, S.W. Deposit of 3*l.* 3s.

FURNITURE, PAINTING, MATERIALS, etc.

JANUARY 6. — **Armley.**—PAINTING.—For painting, etc., of interior of hospitals and nurses' block at the Workhouse, No. 3, Green Hill-road, Armley. Specification at the Workhouse Master's Office.

JANUARY 6.—**Dundee.**—RAILING.—For erection of about 227 yds. of 5-ft. wrought-iron railing at the new bowling green, Fairmuir. Specifications at the Parks Office, 93, Commercial-street, Dundee

JANUARY 7. — **Malden.** — PAINTING.—For repainting, etc., to the interior of the Municipal Offices, New Malden. Conditions and specification from the Engineer and Surveyor, Mr. R. H. Jeffes, A.M.Inst.C.E., Municipal Offices, New Malden. Deposit of 1*l.* 1s.

JANUARY 8. — **Kirkcaldy.** — PAINTING.—For painter work in connexion with the addition to the West Infant School, for the Kirkcaldy and Dysart School Board. Specifications from the architect, Mr. W. Williamson, F.R.I.B.A.

JANUARY 13. — **Chislehurst.**—STORES.—For the supply of stores. Mr. J. J. Brown, Clerk of the Council, Chislehurst.

✱ JANUARY 13. — **Hendon.**—MATERIALS, STORES, ETC.—The Hendon U.D.C. invite tenders for the rendering of certain services and supply of various materials and stores for one year from April 1 next. See advertisement in this issue for further particulars.

✱ JANUARY 16. — **Lambeth.** — WORKS AND MATERIALS.—The Lambeth B.C. invite tenders for various services and supply of materials for one year from March 31 next. See advertisement in this issue for further particulars

✱ JANUARY 22. — **Chelsea.**—STORES, MATERIALS, AND SERVICES. — The Metropolitan Borough of Chelsea invite annual tenders for various work, materials, and stores. See advertisement in this issue for further particulars.

NO DATE.—**Poplar.**—MATERIALS.—For supply of iron castings for sewerage and drainage works; stoneware sewer and drain pipes, etc.; rotary machine sweeping brushes and refilling old stocks; paints, varnishes, etc. Particulars from the Borough Surveyor, Mr. Harley Heckford, M Inst.C.E., Council Offices. Deposit of 1*l.* 1s.

ROADS, SANITARY AND WATER WORKS.

JANUARY 4.—**Bexhill.**—STREETS.—For making-up the following streets: Bedford-avenue, Cantelupe-road (part), Jameson-road (part), and Rotherfield-avenue. Plans seen, and forms of tender from the Borough Surveyor, Mr. G. Ball, A.M.Inst.C.E., Town Hall. Deposit of 1*l.* 1s.

JANUARY 4.—**Northallerton.**—STONE.—For the supply of broken and unbroken stone. Form of tender and conditions of contract from Mr. W. G. Bryning, County Surveyor, County Hall, Northallerton.

JANUARY 7.—**Boston.**—MATERIALS.—For supply of 15,124 tons of granite and 1,896 tons of slag for road repairs Forms of tender from Mr. H. Snaith, Clerk, 10, New-street, Boston.

JANUARY 7. — **Brentford.** — FLINTS.—For the supply of 250 yds. of Kentish pit flints. Forms of tender, with specification and conditions, from Mr. J. W. Croxford, Surveyor, Clifden House, Boston-road, Brentford

JANUARY 7. — **Portslade.** — GRANITE.—For the supply at Portslade Station of 200 tons of 2-in. broken Quenast granite. Surveyor, Mr. A. Taylor Allen, 46, St. Andrew's-road, Portslade-by-Sea.

JANUARY 7. — **Swansea.** — STREETS.—For the execution of private street works in Hawthorne-avenue, Uplands. Plan and specification seen, and tender forms from the Borough Surveyor, 13, Somerset-place.

JANUARY 8.—**Rambledon.**—DRAINAGE.—For the putting in of 157 lin. yds. of 6-in. stoneware pipes and two manholes near Goseden Common, Shalford. Sanitary Surveyor, Mr. Edward L. Lunn, 36, High-street, Guildford

JANUARY 8. — **South Shields.**—WORKS.—For private street works in Bywell-road, Cleadon, and Back St. George's-terrace, etc., East Boldon. Particulars, with forms of tender, from Mr. Roland Clarkson, Surveyor, Council Offices.

JANUARY 11. — **Bexley.** — MATERIALS.—For the supply of highway materials Specifications and form of tender from Mr. W. T. Howse, Surveyor to the Council, Council Offices, Bexley Heath.

JANUARY 11. — **Bourne.** — GRANITE.—For the supply of about 6,000 tons of granite and 2,000 tons of slag. Mr. Thomas Lake, District Surveyor, Bourne.

JANUARY 13.—**Coleshill.**—ROADS.—For carrying out various road works in Coleshill-road, near Coleshill. Plans, conditions of contract, specification, quantities, and form of tender, on deposit of 1*l.* 1s., from Mr. A. W. Liggins, Clerk to the Council, 11, Priory-street, Coventry.

✱ JANUARY 13.—**Hendon.**—STREET WORKS.—The Hendon U.D.C. invite tenders for sewerage and surface-water sewerage, kerbing, channelling, paving, metalling, etc., to private streets, etc. See advertisement in this issue for further particulars.

JANUARY 13. — **St. Pancras.**—MATERIALS.—For supply of timber and joinery materials; creosoted deal blocks; Jarrah wood blocks; paints; oils; Yorkshire stone and artificial paving slabs; granite kerbs, paving setts, broken granite, and Kentish rag; gravel and other roadway materials. Mr. Wm. Nisbet Blair, M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Pancras-road, N.W.

JANUARY 13. — **Southampton.**—ROAD.—For the formation of a gravelled footway with turf edging protected by kerbstones, together with the surface drainage in connexion therewith, on the Bordon Station main road. Specification, plan, and form of tender with Mr. W. J. Taylor, County Surveyor, The Castle, Winchester. Deposit of 1*l.* 1s.

JANUARY 14. — **London.**—DRAINAGE, ETC.—For the execution of certain drainage and road-making work, etc.; the demolition of two cottages, at cemetery at Brockley-road, Blockley, S.E. Plans, particulars, specification, condition of contract, and forms of tender from the Borough Surveyor, Town Hall, New Cross-road, S.E.

JANUARY 17.—**Carlisle.**—WORKS.—For Contract No. 1: Diverting, widening, straightening, altering gradient, and metalling Blackwell-road (40 ft. wide by 1,510 yds. in length), and other work incidental thereto. Contract No. 2: Fire-clay sewers, manholes, etc. Plans at the office of the Engineer to the Council, Mr. Joseph Graham, 28, Castle-street, Carlisle. Specification and quantities on deposit of 2*l.*

JANUARY 17. — **Cuckfield.** — GRANITE.—For the supply of about 7,000 tons of broken granite, tarred material, and flints. Particulars and forms of tender from Mr. A. Macarthur, C.E., Surveyor, Council Offices, Hayward's Heath.

JANUARY 18.—**Hailsham.**—MATERIALS.—For the supply of road materials. Forms of tender from Mr Edmund Catt, Clerk to the Council, Clerk's Office, 17, London-road, Hailsham.

JANUARY 20. — **London.** — ROADS.—For the making-up and paving of that part of Salterford-road, Streatham, which lies between Southcroft-road and Welham-road, and Otterburn-road, Tooting. Specifications and drawings seen, and forms of tender from the Borough Engineer, Mr. P. Dodd, M.Inst.C.E., at office of the New Streets' Department, 56, East-hill, Wandsworth, S.W. Deposit of 5*l.* 5s. in each case.

JANUARY 20. — **Middlesbrough.**—MATERIALS.—For the supply of materials. Specification and schedule at the Borough Engineer's Office, Municipal Buildings.

JANUARY 21. — **Surrey.** — FLINTS.—For the supply of granites, basalts, limestone, slag, tar-macadam, bitumen, pitch, tar, and tar oils. Specifications, schedules, and forms of tender from Mr. A. Dryland, County Surveyor, County Hall, Kingston-upon-Thames.

JANUARY 22. — **Madras.** — PIPES, ETC. — The Corporation of Madras invites tenders for the supply and delivery of English stoneware pipes and specials, varying from 4 in. to 21 in. internal diameter, and aggregating a total length of about 165 miles. Forms of tender, by Mr. J. W. Madeley, M.A., M.Inst.C.E., M.A.M.Soc.C.E., etc., Special Engineer to the Corporation of Madras, from Messrs. James Mansergh & Sons, Agents to the Corporation, 5, Victoria-street, Westminster, S.W., on payment of 5s.

JANUARY 27. — **Croydon.** — PIPES.—For the supply of stoneware drain pipes. Mr. F. C. Lloyd, Town Clerk, Town Hall, Croydon.

FEBRUARY 5. — **Hatfield.**—SLAG, ETC.—For the supply of broken granite and slag. Forms of tender and conditions of contract from Mr. Urban A. Smith, M.Inst.C.E., County Surveyor, County Surveyor's Office, Hatfield, Herts.

Public Appointment.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*CLERK OF WORKS	Banbury Corporation	Not stated	Jan. 18
*SEWAGE WORKS MANAGER	Harpenden U.D.C.	Not stated	Jan. 22

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*BUILDING MATERIALS—155, Peckham-rye, S.E.	Veryard & Yates	Jan. 9
*DEALS, BATTENS, BOARDS, TIMBER, Etc.—Great Hall, Winchester House, E.C.	Churchill & Sim	Jan. 15
*ANTIQUE FIXTURES AND FITTINGS—10, Trinity-square, E.C.	Fuller, Horsey, Sons, & Cassell	Jan. 31
*SITE FOR SHOPS, Etc., HIGH HOLBORN—At the Mart	Thurgood & Martin	Feb. 4

OBITUARY—*continued from page 28.*

Southwark, 1902; Public Baths, Kingston-on-Thames, in conjunction with Mr. M. B. Adams, 1907-8; for the St. George, Hanover-square, Guardians, their new Board-room and offices in Princes-row, and the extension of the workhouse in Wallis's-yard, Buckingham Palace-road, S.W., 1906-7; for the St. Leonard, Shoreditch, Guardians, their branch workhouses in Hazelville-road, Hornsey Rise, Islington, Reeve's-place, N., and Alexandra Park-road, Wood Green, 1908-9, and the new Infants' School, with drill hall and gymnasium, Hornchurch, 1911; and of the new receiving wards, and extensions and improvements, Farnborough Workhouse, for the Bromley Union, Kent; Guardians, 1912. He was one of the six architects nominated to compete for the St. Pancras Baths, 1899, to cost over 58,000*l.*, and the Committee placed his designs third, out of about fifty, for the Chelsea Public Baths, eleven years ago.

Mr. W. J. Tonner.

Mr. William Jardine Tonner, of Glasgow, sculptor, died on December 22, aged forty-four years. Mr. Tonner, a native of Glasgow, studied in the School of Art of that city and at South Kensington; he then entered the Ecole des Beaux-Arts and studied in Falguière's atelier. He executed the bust of Tolstoy, 1911, which was in the Scottish Exhibition, held in Glasgow, with several other portrait-busts, and medals, but ill-health greatly impeded him in his artistic career.

PATENTS.

APPLICATIONS PUBLISHED.*

24,239 of 1911.—Charles Edward Guelich and Howard Albertus Miner: Apparatus for preparing paving material and the like.

26,941 of 1911. Albert Edward Spooner: Process of waterproofing cement substances and the like.

27,423 of 1911.—Max Wittenberg and Arthur Stevenson: Tap or antisplash filters.

29,169 of 1911.—John Shanks: Water-waste preventers.

151 of 1912.—John Walter Rance: Method of and apparatus for laying drainage and other pipes.

521 of 1912.—Arthur Stanley Quick: Plastic compositions.

938 of 1912.—Samuel Beal, and Edward Deane & Beal, Ltd.: Automatic mixing valves for hot and cold water supplies.

3,380 of 1912.—William Ernest Dewhurst: Fastener for doors and windows.

3,801 of 1912.—Albert Martin, and Ernest Wilson & Albert Martin: Apparatus for laying and fixing drainpipes, or for similar purposes.

5,007 of 1912.—Francis Joseph James Gibbons: Pivots for swinging window-sashes, looking-glasses, blackboards, and like pivoted objects.

8,587 of 1912.—Eugené Roth: Water-heating apparatus.

11,088 of 1912.—William Mayo Venable: Moulds for casting concrete and like beams.

14,090 of 1912.—Albert George Kew: Line gauges for bricklayers' use.

17,775 of 1912.—Carl Werkenthin: Reinforced walls.

18,095 of 1912.—William Paul Dwight Moross: Paints made with hydraulic cement and water.

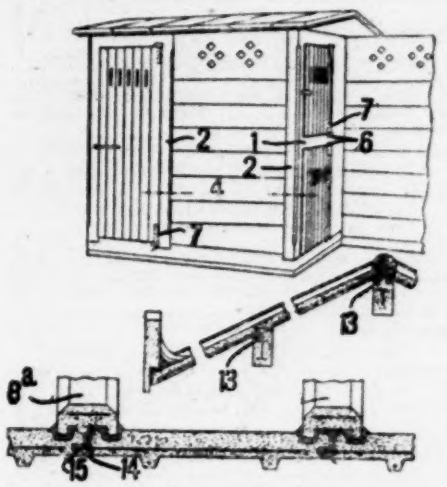
19,212 of 1912.—John Dodds: Heating air for heating and ventilating buildings.

22,615 of 1912.—Messrs. Taylor, Taylor, & Hobson, Ltd., and Alexander William Webster: Levels and the like.

SELECTED PATENTS.

16,934 of 1911.—Ernest Delille: Concrete slab buildings.

This relates to concrete buildings, wherein the framing consists of sills and rails 1, recessed to receive the studs 2, which are grooved for a single or double series of wall slabs 4, and are provided with hinge fittings 7 for the doors and windows. Recesses 6 to receive the hinges are also formed in the sills and rails. The upper ends of the studs are connected by beams, which may form the sills for an upper story. The roof slabs, which have one or more ribs on the upper or lower

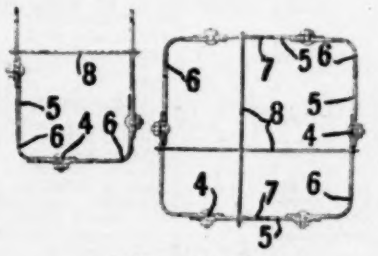


16,984 of 1911.

side, extend from the ridge to the eaves in one or more lengths, and are fixed to the roof beams by pins 13 and cement grouting; the slabs are connected laterally by grouting the reinforcing netting 14, in grooves 15, and also by the flanged joint-capping 8*a*.

17,023 of 1911.—Hans Woruda: Moulding concrete.

This relates to adjustable moulds for concrete columns and beams which are formed of overlapping corner and intermediate members 6, 7, which have holes 4 and slots 5 for

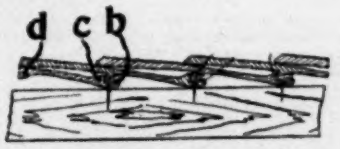


17,023 of 1911.

adjustment, and are secured by bolts and nuts. The apertures in the plates and the spaces between them are covered with thin sheet metal secured by bolts and nuts. The sides of the moulds are prevented from bulging by wires 8, which project through the sides and are bent at the ends.

18,482 of 1911.—Ernest Allinson Flower: Roofing tiles.

This relates to roofing slabs of cement or asbestos, which are made of widths to span three or more roof rafters, and are formed with ribs *b*, *c* at the top ends of the upper



18,482 of 1911.

faces, and with ribs *d* underneath to engage the ribs *c* of the slabs below, the recesses between the ribs *b*, *c* being filled with mortar or cement. The slabs may be reinforced with wire-netting and have cuts, notches, or ridges at intervals on the upper faces to represent slates or tiles.

*All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

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SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

December 10.—By DENYER & COLLINS.

Tonbridge, Kent.—5 to 8, The Crescent, f.	£1,040

December 11.—By SWAIN & HUNNYBUN.

Notting Hill.—20, High-st. (s.), u.t. 39 yrs., g.r. 1l. 10s., y.r. 150l.	1,450

By DRAWBRIDGE & ANSELL.

Chailey, Sussex.—Westlands and 1 a. 3 r. 35 p., f.	1,200
Lindfield, Sussex.—Willetts Cottages and house adjoining, f.	900
High-st., baker's shop and premises, f.	1,200
Connorliss and 3 a. 2 r. 23 p., f.	810
Pelham-pl. Cottages, f.	750
Hayward's Heath, Sussex.—1 and 2, Ashton-villas, f.	510

By WHATLEY, WING, & Co.

Countesthorpe, Leicester.—Freehold cottage	100

December 12.—By DEBENHAM, STORR, & SONS.

Strand.—18, Wellington-st., and 2, Exeter-st., f., p.	27,000

By FAREBROTHER, ELLIS, & Co.

Strand.—No. 211, f., y.r. 350l.	7,850
Tottenham Court-road.—38 and 38A, Goodge-st. (s.), f., y.r. 60l.	1,400
Bloomsbury.—21, Devonshire-st. (s.), f., y.r. 40l.	700

By GREEN & SON.

Southall.—20 to 32 (even), Townsend-rd., f., w.r. 163l. 16s.	1,256

By CHESTERTON & SONS.

Brompton.—185 and 187, Brompton-rd., etc., f.g. rents 53l., reversion in 11 yrs.	14,100
Kensington.—21, Eldon-rd., u.t. 20 yrs., g.r. 9l. 12s., y.r. 115l.	920

By FERRIS & PUCKRIDGE.

Streatham.—47, 48, 49, 51, and 53, Greyhound-la., u.t. 67 yrs., g.r. 42l., y. and e.r. 170l.	765
13, 15, and 17, Ellison-rd., u.t. 67 yrs., g.r. 19l. 2s., y. and e.r. 84l.	420
Norbury.—18 to 24 (even), Semley-rd., u.t. 90 yrs., g.r. 22l., y. and e.r. 128l.	900

By MARSH & PARSONS.

Wood Green.—6, Sussex-ter., u.t. 53 yrs., g.r. 5l. 5s., w.r. 35l. 2s.	115

By NEWBON & SHEPHARDS.

Camden Town.—10, Grange-rd. (s.), u.t. 18 yrs., g.r. 3l. 10s., y.r. 36l.	110
Leicester-sq.—33, Orange-st. (s.), f., y.r. 81l.	1,650
Soho.—27 and 28, St. Ann's-ct. (s.), f., y.r. 84l.	1,500
1, Manette-st., f., y.r. 50l.	1,020
Covent Garden.—38, Floral st. (s.), f., y.r. 60l.	1,290
Fitzroy-sq.—93, Charlotte-st. (s.), f., y.r. 85l.	1,500
62, Huntley-st., and 67, Chenies-mews, f., y.r. 71l.	1,150
Drury-lane.—4, Wild st. (s.), f., w.r. 32l.	400

By LISSETT, LANE, & BETTRIDGE.

Harlesden.—63, Craven Park-rd., u.t. 58 yrs., g.r. 8l. 8s., y.r. 33l.	350
38, Station rd., f.g.r. 6l., reversion in 66 yrs.	140
Church-rd., corner site, f.	355

By H. J. BLISS & SONS.

Bow.—9, 10, 39, and 40, Gawthorne-st., u.t. 35 yrs., g.r. 14l., w.r. 135l. 4s.	540

By WM. WESTON.

Harrow-rd.—Nos. 520, 526, 532, and 536 (s.), u.t. 66 yrs., g.r. 62l., y.r. 496l.	4,400
Notting Hill.—2, Portobello-rd., u.t. 32 yrs., g.r. 6l., y.r. 45l.	200

By TOOTELL & GREEN.

Maidstone, Kent.—9, Penenden-st., f., p.	135
22, Peel-st., f., w.r. 14l. 6s.	130

December 12.—By EDWIN EVANS & SONS.

Battersea.—96, 98, and 100, Stewarts-rd., f., w.r. 93l. 12s.	450
72 to 78, Latchmere-gr., f., w.r. 136l. 10s.	700
2, 8, 14, 16, and 18, Ceylon-st., u.t. 48½ yrs., g.r. 25l., w.r. 180l. 14s.	900
4, Surrey-la., f., w.r. 41l. 12s.	320

December 13.—By WM. CLARKSON.

Bethnal Green.—102, 104, and 106, Bethnal Green-rd., u.t. 24 yrs., g.r. 13l. 10s., w.r. 119l. 12s.	400
12 and 32, Clarkson-st., u.t. 24 yrs., g.r. 6l., e. and w.r. 79l. 8s.	325

By C. RAWLEY CROSS & Co.

Fulham.—245, Lillie-rd. (s.), u.t. 44 yrs., g.r. 8l. 10s., y.r. 40l.	295

By ELLIOTT, TOMBS, & Co.

Fulham.—332 and 334, Fulham-rd., u.t. 12 yrs., g.r. 12l. 10s., w.r. 14l.	370

By HUSSEY, WALCOTT, & Co.

West Ham.—182, The Portway, f., y.r. 32l.	350

December 14.—By S. MEALING MILLS.

Hempnall, Norfolk.—Hempnall Estate, 946a., f.	£8,855

December 16.—By CHARLES DEFFER.

Stoke Newington.—Green-lanes, the Pegasus p.h., lease for 31 yrs. at 210l. with fixtures, fittings, and goodwill	1,200

By WINTERTON & SONS.

Cannock, Staffs.—Wimblebury-rd., five houses, f., w.r. 54l. 12s.	500

December 17.—By DYER, SON, & HILTON.

Lee.—32, Leyland-rd., u.t. 51 yrs., g.r. 20l., p.	115
Blackheath.—1, Bennett-pk., u.t. 40 yrs., g.r. 10l., p.	100

By FISHER, STANHOPE, & Co.

Clapton.—2, Nightingale-rd., f., y.r. 38l.	460

By HAROLD GRIFFIN.

Battersea.—92, 94, and 96, Surrey-la., f., w.r. 114l. 8s.	750

By PERCIVAL HODSON.

Palmer's Green.—9, Palmer's Green-villas, f., p.	465

By WINTERTON & SONS.

Burntwood, Staffs.—Chorley-rd., four houses, f., w.r., 32l. 10s.	295

By GEORGE LOVERITT & SONS.

Longford, Warwick.—97, Foleshill-rd., u.t. 77 yrs., g.r. 1l. 10s. 7d., w.r. 20l. 16s.	300
25 and 27, Cherry-st., f., w.r. 46l. 8s.	395
Two houses, f., w.r. 20l. 3s.	310
Coventry.—2, Ellys-rd., u.t. 84 yrs , g.r. nil	950
40, Whitefriars-st., f., p.	370
72, Canterbury-st., f., p.	285
31 to 39 (odd), Aylesford-st., f., w.r. 75l. 8s.	675

By KNIGHT, FRANK, & RUTLEY.

Ridley, Cheshire.—Ridley Estate, 1,171 a., f.	55,890

December 19.—By HENRY HENDRIKS & Co.

Balsall Heath, Worcester.—George-st., f.g. rents 88l. 15s., reversion in 69 yrs.	2,155
78, George-st., f., p.	275
Birmingham.—Hall Green, pasture land, 10 a. 3 r. 34 p., f.	1,165
Ryland-st., Rose and Crown b.h., etc., u.t. 26 yrs., g.r. 15l. 2s. 6d., y. and w.r. 210l.	1,190

December 20.—By WYATT & SON.

Fishbourne, Sussex.—Cottage and 2 a. 1 r. 14 p., f.	400

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. for beerhouse; p.h. for public-house; o. for offices; s. for shops; ct. for court.

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*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River.

	£ s. d.
Best Stocks	1 14 0
Picked Stocks for Facings	2 10 0

Per 1000, Delivered at Railway Depôt.

	£ s. d.		£ s. d.
Flettons	1 13 0	Best Blue Pressed Staffordshire	3 15 0
Best Fareham Red	3 12 0	Do. Bullnose	4 0 0
Best Red Pressed Ruabon Facing	5 0 0	Best Stourbridge Fire Bricks	4 0 0

GLAZED BRICKS—

Best White, Ivory, and Salt Glaz'd Str'tch'rs	12 7 6	Double Headers	14 17 6
		One Side and two Ends	18 17 6
Headers	11 17 6	Two Sides and one End	19 17 6
Quoins, Bullnose, and 4½ in. Flats	15 17 6	Splays & Squints	17 7 6
D'ble Stretchers	17 17 6		

Second Quality £1 10s. per 1000 less than best.

BRICKS, &c. (*Continued*).

	s. d.	
Thames and Pit Sand	6 9	per yard, delivered.
Thames Ballast	5 6	» »
Best Portland Cement	36 0	per ton, »
Best Ground Blue Lias Lime	19 0	» »

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime	13s. 6d. per yard delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly dpt.	

STONE.

Per Ft. Cube.

	s. d.
BATH STONE—delivered on road waggons, Paddington Depôt	1 7½
Do. do. delivered on road waggons, Nine Elms Depôt	1 9
PORTLAND STONE (20 ft. average)—	
Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 3
White Basebed, delivered on road waggons Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 4½

Per Ft. Cube, delivered at Railway Depôt.

	s. d.		s. d.
Ancaster in blocks	1 10	Closeburn Red Freestone	2 0
Bser in blocks	1 6	Red Mansfield Freestone	2 4
Greenshill in blocks	1 10	Talacre & Gwespyr Stone	2 4
Darley Dale in blocks	2 4		
Red Corsehill in blocks	2 3		

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt.	s. d.
Scappled random blocks	2 10
Per Ft. Super., Delivered at Railway Depôt.	
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 3
6 in. rubbed two sides ditto, ditto	2 6
3 in. sawn two sides slabs (random sizes)	0 11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7
1½ in. to 2 in. ditto, ditto	0 6
HARD YORK—	
Per Ft. Cube, Delivered at Railway Depôt.	
Scappled random blocks	3 0
Per Ft. Super., Delivered at Railway Depôt.	
6 in. sawn two sides landing to sizes (under 40 ft. super.)	2 8
6 in. rubbed two sides ditto	3 0
3 in. sawn two sides slabs (random sizes)	1 2
2 in. self-faced random flags	0 5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£ s. d.	In. In.	£ s. d.
20×10 best blue Bangor	13 2 6	20×10 best Eur'ka unfading green	15 17 6
20×12 ditto	13 17 6	20×12 ditto	18 7 6
20×10 1st quality ditto	13 0 0	18×10 ditto	13 5 0
20×12 ditto	13 15 0	16×8 ditto	10 5 0
16×8 ditto	7 5 0	20×10 permanent green	11 12 6
22×10 best blue Portmadoc	12 12 6	18×10 ditto	9 12 6
16×8 ditto	6 12 6	16×8 ditto	6 12 6

TILES.

At Railway Depôt.

	s. d.		s. d.
Best plain red roofing (per 1000)	42 0	Best "Hartshill" brand, plain sand-faced (per 1000)	45 0
Hip and Valley (per doz.)	3 7	Do. pressed (per 1000)	42 6
Best Broseley (per 1000)	50 0	Do. Ornamental (per 1000)	47 6
Do. Ornamental (per 1000)	52 6	Hip (per doz.)	4 0
Hip and Valley (per doz.)	4 0	Valley (per doz.)	3 6
Best Ruabon red, brown, or brindled (Edw'ds) (per 1000)	57 6	Staffords. (Hanley) Reds or Brindled (per 1000)	42 6
Do. Ornamental (per 1000)	60 0	Hand-made sand-faced (per 1000)	45 0
Hip (per doz.)	4 0	Hip (per doz.)	4 0
Valley (per doz.)	3 0	Valley (per doz.)	3 6

WOOD.

BUILDING WOOD.	At per standard. £ s. d.		£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	14 0 0	...	15 10 0
Deals: best 3 by 9	13 10 0	...	14 10 0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11 10 0	...	12 10 0
Battens: best 2½ by 6 and 3 by 6	0 10 0		less than 7 in. and 8 in.
Deals: seconds	1 0 0		less thn best.
Battens: seconds	0 10 0	»	»
2 in. by in. and 2 in. by 6 in.	9 10 0	...	10 10 0
2 in. by 4½ in. and 2 in. by 5 in.	9 0 0	...	10 0 0
Foreign Sawn Boards—			
1 in. and 1¼ in. by 7 in.	0 10 0		more than battens.
¾ in.	1 0 0		»
Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 ft. 5 0 0	...	5 10 0
Seconds	4 10 0	...	5 0 0
Small timber (8 in. to 10 in.)	3 17 6	...	4 0 0
Small timber (6 in. to 8 in.)	3 5 0	...	3 10 0
Swedish balks	2 12 6	...	3 0 0
Pitch-pine timber (30 ft. average)	5 5 0	...	6 0 0

JOINERS' WOOD.	At per standard.		
White Sea: first yellow deals, 3 in. by 11 in.	24 10 0	...	25 10 0
3 in. by 9 in.	22 10 0	...	23 10 0
Battens, 2½ in. and 3 in. by 7 in.	17 0 0	...	18 0 0
Second yellow deals, 3in. by 11in.	19 0 0	...	20 0 0
» » 3 in. by 9 in.	18 0 0	...	19 10 0
Battens, 2½ in. and 3in. by 7 in.	14 0 0	...	15 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	14 0 0	...	15 0 0
Battens, 2½ in. and 3 in. by 7 in.	11 10 0	...	12 10 0

WOOD (*Continued*).

JOINERS' WOOD (*Continued*)—	At per standard. £ s. d.		£ s. d.
Petersburg: first yellow deals, 3 in. by 11 in.	21 10 0	...	22 10 0
Do. 3 in. by 9 in.	18 10 0	...	19 10 0
Battens	14 0 0	...	15 0 0
Second yellow deals, 3 in. by 11 in.	16 10 0	...	17 10 0
Do. 3 in. by 9 in.	15 0 0	...	16 0 0
Battens	11 10 0	...	12 10 0
Third yellow deals, 3in. by 11 in.	13 10 0	...	14 10 0
Do. 3 in. by 9 in.	13 0 0	...	14 0 0
Battens	10 10 0	...	11 0 0
White Sea and Petersburg—			
First white deals, 3 in. by 11 in.	15 0 0	...	16 0 0
» » 3 in. by 9 in.	14 0 0	...	14 10 0
Battens	11 10 0	...	12 10 0
Second white deals, 3in. by 11in.	14 0 0	...	15 0 0
» » 3 in. by 9 in.	13 0 0	...	14 0 0
Battens	10 10 0	...	11 0 0
Pitch-pine: deals	19 0 0	...	21 0 0
Under 2 in. thick extra	0 10 0	...	1 0 0
Yellow Pine—First, regular sizes	48 0 0		upwards.
Oddments	32 0 0		»
Seconds, regular sizes	33 0 0		»
Oddments	28 0 0		»
Kauri Pine—Planks per ft. cube	0 4 6	...	0 6 0
Danzig and Stettin Oak Logs—			
Large, per ft. cube	0 3 0	...	0 3 9
Small » »	0 2 6	...	0 2 6
Wainscot Oak Logs, per ft. cube	0 6 6	...	0 8 0
Dry Wainscot Oak, per ft. super. as inch	0 0 10	...	0 1 0
¼ in. do. do.	0 0 8½	...	—
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch	0 0 10	...	0 1 1
Selected, Figury, per ft. super. as inch	0 1 6	...	0 2 6
Dry Walnut, American, per ft. super. as inch	0 0 10	...	0 1 0
Teak, per load	18 0 0	...	22 0 0
American Whitewood planks, per ft. cube	0 5 0	...	0 6 0
Prepared Flooring, etc.—	Per square.		
1 in. by 7 in. yellow, planed and shot	0 13 6	...	0 17 0
1 in. by 7 in. yellow, planed and matched	0 14 0	...	0 18 0
1¼ in. by 7 in. yellow, planed and matched	0 16 0	...	1 0 0
1 in. by 7 in. white, planed and shot	0 12 0	...	0 14 6
1 in. by 7 in. white, planed and matched	0 12 6	...	0 15 0
1¼ in. by 7 in. white, planed and matched	0 15 0	...	0 16 6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0 11 0	...	0 13 6
1 in. by 7 in. » »	0 14 0	...	0 18 6
¾ in. by 7 in. white » »	0 10 0	...	0 11 0
1 in. by 7 in. » »	0 12 9	...	0 15 0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.		£ s. d.
Rolled Steel Joists, ordinary sections	8 10 0	...	9 10 0
Compound Girders, ordinary sections	10 0 0	...	11 0 0
Steel Compound Stanchions	11 10 0	...	12 10 0
Angles, Tees, and Channels, ordinary sections	10 0 0	...	11 0 0
Flitch Plates	10 0 0	...	11 0 0
Cast Iron Columns & Stanchions, including ordinary patterns	8 0 0	...	8 10 0

METALS.

	Per ton, in London. £ s. d.		£ s. d.
IRON—			
Common Bars	9 0 0	...	9 10 0
Staffordshire Crown Bars, good merchant quality	9 5 0	...	9 15 0
Staffordshire "Marked Bars"	11 0 0	...	—
Mild Steel Bars	9 5 0	...	9 15 0
Hoop Iron, basis price	10 0 0	...	—
» » Galvanised	17 10 0	...	—

(*And upwards, according to size and gauge.)

Sheet Iron Black—			
Ordinary sizes to 20 g.	10 5 0	...	—
» » 24 g.	11 5 0	...	—
» » 26 g.	12 15 0	...	—
Sheet Iron, Galvanised, flat, ordinary quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0	...	—
Ordinary sizes to 22 g. and 24 g.	16 0 0	...	—
» » 26 g.	17 0 0	...	—
Sheet Iron, Galvanised, flat, best quality—			
Ordinary sizes to 20 g.	18 10 0	...	—
» » 22 g. and 24 g.	19 0 0	...	—
» » 26 g.	20 10 0	...	—
Galvanised Corrugated Sheets—			
Ordinary sizes, 6ft. to 8ft. 20 g.	15 0 0	...	—
» » 22 g. and 24 g.	15 5 0	...	—
» » 26 g.	16 15 0	...	—
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12 10 0	...	—
Best Soft Steel Sheets, 2 g. & 24 g.	13 10 0	...	—
» » » 26 g.	15 10 0	...	—
Cut Nails, 3 in. to 6 in.	11 0 0	...	11 10 0

(Under 3 in., usual trade extras.)

LEAD, &c.

Delivered in London.

	£ s. d.		
LEAD—Sheet, English, 4lb. and up	22 2 6	...	—
Pipe in coils	22 12 6	...	—
Soil pipe	25 12 6	...	—
Compo pipe	25 12 6	...	—
ZINC—Sheet—	In casks of 10 cwt.		
Vielle Montagne	33 15 0	...	—
Silesian	33 10 0	...	—

Zinc, in bundles, 1s. per cwt. extra.

COPPER—				
Strong Sheet	per lb.	0 1 1	...	—
Thin	»	0 1 2	...	—
Copper nails	»	0 1 0	...	—
Copper wire	»	0 1 0	...	—

LEAD, &c. (*continued*).

Delivered in London.

		£	s.	d.		
BRASS—						
Strong Sheet	per lb.	0	1	0	...	—
Thin	"	0	1	1	...	—
TIN—English Ingots	"	0	2	3	...	—
SOLDER—Plumbers'	"	0	0	11	...	—
Tinmen's	"	0	1	2½	...	—
Blowpipe	"	0	1	4½	...	—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

15 oz. thirds	2½d.	26 oz. fourths	4d.
" fourths	2d.	32 oz. thirds	5½d.
21 oz. thirds	3½d.	" fourths	4½d.
" fourths	3d.	Fluted Sheet, 15 oz.	3d.
26 oz. thirds	4½d.	" 21 oz.	4d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

¼ Rolled plate	2½d.	Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white	3½d.
⅛ Rough rolled and rough cast plate	2½d.		
¼ Rough rolled and rough cast plate	3d.	Ditto, tinted	5d.

* Not less than two crates.

OILS, &c.		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	2	4
" " in barrels	"	0	2	5
" " in drums	"	0	2	6
Boiled " in barrels	"	0	2	6
" " in drums	"	0	2	9
Turpentine in barrels	"	0	2	8
" in drums	"	0	2	10
Genuine Ground English White Lead, (In not less than 5 cwt. lots)	per ton	30	5	0
Red Lead, Dry	"	26	12	6
Best Linseed Oil Putty	per cwt.	0	10	0
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.

	Per gallon. £	s.	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak	0	10	0
Superfine Hard-drying Oak, for seats of Churches	0	14	6
Fine Elastic Carriage	0	12	9
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	10	0
Finest Pale Durable Copal	0	18	0
Extra Pale French Oil	1	1	0
Eggshell Flating Varnish	0	18	6
White Pale Enamel	1	4	0
Extra Pale Paper	0	12	0
Best Japan Gold Size	0	10	0
Best Black Japan	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	0

VARNISHES, &c. (*Continued*).

	Per gallon. £	s.	d.
Berlin Black	0	16	0
Knotting	0	10	0
French and Brush Polish	0	10	6

PUBLISHER'S NOTICES.

Tel., 6112 Gerrard. Telegrams, "The Builder, London."

THE INDEX (with TITLE-PAGE) for VOLUME CIII. (July to December, 1912) will be given as a supplement with January 10.

CLOTH CASES for Binding the Numbers are now ready, price 2s. 6d. each; also

READING CASES (Cloth), with Strings, price 9d. each.

THE HUNDRED AND THIRD VOLUME of "The Builder" (bound), price Twelve Shillings and Sixpence, will be ready on January 21.

SUBSCRIBERS' VOLUMES, on being sent to the Office, will be bound at a cost of 3s. 6d. each.

CHARGES FOR ADVERTISEMENTS.

COMPETITIONS, CONTRACTS, ALL NOTICES ISSUED BY CORPORATE BODIES, COUNTY AND OTHER COUNCILS, PROSPECTUSES OF PUBLIC COMPANIES, SALES BY TENDER, LEGAL ANNOUNCEMENTS, etc., etc.

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PREPAYMENT IS ABSOLUTELY NECESSARY.

*** Stamps must not be sent; but all sums should be remitted by Postal Orders, payable to J. MORGAN, and addressed to the Publisher of "THE BUILDER," 4, Catherine Street, W.C.

Advertisements for the current week's issue are received up to ONE p.m. on THURSDAY, but "Classification" is impossible in the case of any which may reach the Office after TWELVE NOON on that day. Those intended for the Outside Wrapper should be in by TWELVE NOON on WEDNESDAY.

ALTERATIONS IN STANDING ADVERTISEMENTS or ORDERS TO DISCONTINUE same must reach the Office before TEN o'clock on WEDNESDAY MORNING.

The Publisher cannot be responsible for DRAWINGS, TESTIMONIALS, etc., left at the Office in reply to advertisements, and strongly recommends that of the latter COPIES ONLY should be sent.

ADVERTISERS in "THE BUILDER" may have *Replies addressed to the Office*, 4, Catherine Street, Aldwych, W.C., *free of charge*. Letters will be forwarded if addressed envelopes are sent, together with sufficient stamps to cover the postage. Unused stamps are returned to advertisers the week after publication.

N.B.—The Reply Boxes are not intended for trade lists, circulars, and the like; should these be received, they cannot (if noticed) be forwarded.

AN EDITION Printed on THIN PAPER, for FOREIGN and COLONIAL CIRCULATION, is issued every week.

READING CASES { NINEPENCE EACH. By post (carefully packed), 1s.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 6 p.m. on Wednesday*. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

* Denotes *accepted*. † Denotes *provisionally accepted*.

ABERAVON.—For construction of offices and boundary wall at the gasworks, for the Aberavon Corporation. Mr. James Roderick, Borough Surveyor, Aberavon:—

M. Cox	£1,630 0 0
B. M. Davies & Co.	1,628 8 6
J. Davies	1,565 0 0
Exors. of S. T. Rees	1,464 0 0
Jenkins & Fowler, Aberavon*	1,449 10 0

[Surveyor's estimate, £1,585.]

BASFORD.—For alterations and additions at the Newthorpe Outfall Works. Messrs. Elliott & Brown, engineers, Nottingham:—

A. H. Price & Co.	£790 0	G. F. Tomlinson, City-road, Derby*	£618 10
Lane Bros.	740 0		
C. Raynor	620 0		

DEVONSHIRE.—For various contracts, for Devon County Education Committee. Mr. Percy Morris, County Architect (Education), 1, Richmond-road, Exeter. Quantities by Mr. S. W. Haughton, 41, George-street, Plymouth:—

Brixham New Elementary (Boys') Council School.

H. Drew	£2,756 0 0	H. Pittard & Son	£2,212 10 0
T. Silley	2,445 0 6	S. Roberts, Ltd.	2,208 5 9
E. P. Bovey & Son.	2,411 6 5	N. Pratt & Sons	2,201 17 11
G. B. Turpin	2,378 0 0	Hazlewood Bros.	2,173 9 2
R. B. Hazlewood	2,362 3 0	W. H. Taylor	2,157 2 1½
R.C.Williams	2,353 3 9	F.J.Badcock*	2,142 8 7
R. E. Narracott	2,283 17 8		

[The price includes additional accommodation in the assembly hall, etc., for subsequent enlargement.]

Umberleigh New Elementary Council School. (*Mixed.*)

H. Burgess & Son	£1,913 7 10	E. Karslake & Son	£1,715 3 2
J. J. Sleeman & Son	1,676 13 9	C.Bryer, jun.	1,465 9 5
H. Sillifant & Sons	1,564 7 9	Woolaway & Sons	1,452 0 5
R. Pickett	1,561 0 3½	N. Pratt & Sons	1,381 7 2
Soper & Ayers	1,557 17 4	A. Darch	1,368 6 4½
F. A. Jewell	1,542 2 1	F. J. Badcock*	1,367 5 9

Blackawton Council School.

Alterations to offices and drainage:—

R. Pillar*	£102 10

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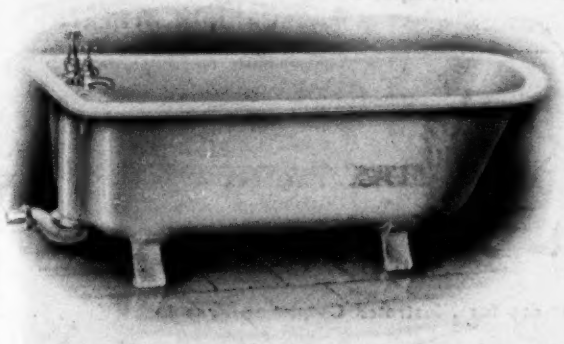

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Okehampton, North-street Council School.
Alterations, etc. :—
W. J. Avery £811 4 6
Blatchford & Dawe 789 12 0
J. J. Sleeman 765 4 10
W. Ball & Son* 749 13 8

Plymstock, Oreston Council School.
Alterations, etc. :—
Roach & Lovell £246 0 0
Warren & Elworthy 237 13 2
W. H. Coleman & G. H. Simmons* ... 228 16 6

Westleigh Council School.
New cloakrooms, ventilation, new playsheds, etc. :—
H. Sillifant & Sons £312 2 0
H. Glover & Sons 273 5 0
T. Ridge and J. Shute £266 6 2
R. Pickett* 257 16 6

Bridford Council School.
Ventilation and new drainage, etc. :—
S. H. Davie ... £190 16 1
W. H. Taylor* £176 10 0

Broadhempston Council School.
Alterations, ventilation, etc. :—
W. Atwill, jun.... £314 6
F. J. Badcock 282 10
W. H. Taylor* £250 0

Drewsteignton Council School.
Alterations, etc. :—
J. B. Smith & F. Parker* £183 5 6

Holbeton Council School.
Alterations, ventilation, etc. :—
F. & M. E Rogers £242 10 6
R. C. Williams* £225 5 3

Instow Council School.
New drainage, etc :—
H. Sillifant & Sons £136 0 0
W. Slee & Son... £132 10 0
J. T. Dark* 103 15 6

Lydford Council School.
Alterations, ventilation, playsheds, etc. :—
Petherick & May £299 0 0
Huggins & Bickle* 243 19 6

Stoke Rivers Council School.
Enlargement, etc. :—
W. Slee & Son £501 12 6
H. Hancock & F. Parkin* 352 10 0

DOVER.—For addition and alterations to the girls' department of St. Martin's Council School, Markland-road. Mr. W. C. Hawke, A.M.Inst.C.E., Borough Engineer, Dover :—
Paramors, Ltd. £1,510
Austen & Lewis 1,485
G. Lewis & Sons 1,365
G. Munro 1,261
J. Parsons £1,253
Hayward & Paramor, Dover* 1,249

KENDAL.—For converting the old brewery premises, Wildman-street, into a steam laundry, for Mr. A. Pickles. Mr. J. Stalker, M.S.A., architect, Kendal :—
Excavating, Walling, and Mason's Work (six tenders).
T. Hine & Son, Serpentine-terrace, Kendal* £128 3
Carpenter and Joiner's Work (five tenders).
Park Bros., Elephant-yard, Kendal* 213 10
Plastering and Cementing (five tenders).
R. Anderson, White Horse-yard, Kendal*... 107 0
Plumbing, etc. (three tenders).
W. Jackson & Co., Lowther-street, Kendal* 22 6
Painting and Glazing (six tenders).
T. Robinson, Kent-place, Kendal* 24 0

LLYSVAEN (near Cardiff).—For the erection of a small Council school, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., County Architect, Cardiff :—
I. Makin, Mackintosh-place, Cardiff* £1,630

NORWICH.—For children's homes, for the Norwich Board of Guardians. Messrs. Morgan & Buckingham, architects and surveyors, 1, Upper King-street, Norwich :—
F. R. Hipperson ... £3,032
Podd & Fisher 3,025
Youngs & Son 2,960
Gill & Son 2,942
Scarles Bros 2,927
Wicks & Son, Ltd... £2,636
T. H. Yelf 2,636
W. Hannant 2,577
Sparkes & Lattin ... 2,486
S. E. Hodge* 2,365

RAMSGATE.—For erection of a new elementary school in Ellington-place, for the Corporation of the Borough of Ramsgate. Mr. Geo. Graham Tucker, Lic.R.I.B.A., architect, 1, York-terrace, Ramsgate. Quantities by Mr. D. Kent, 83, St. Paul's-churchyard, London, E.C. :—
D. W. Barker & Son £17,444
W. J. Maddison ... 16,938
F. Bennett ..... 16,95[illegible]
G. Godson & Son ... 16,538
West Bros. 16,395
F. T. Gentry 16,170
R. Elliott & Co. ... 16,120
G. Browning 15,997
Hayward & Paramor 15,972
W. H. Archer & Sons 15,867
W. W. Martin £15,777
G. E. Wallis & Sons 15,745
G. H. Denne 15,275
W. J. Norris 15,215
W. J. Ballard 15,181
J. T. May 15,172
Strand Building Co. 14,966
T. T. Denne 14,923
Grummant Bros., Ramsgate* 14,699

ROMILEY.—For erection of a new elementary school in Sandy-lane, for Cheshire County Council. Mr. J. Holt, A.R.I.B.A., architect, Manchester :—
T. Rhodes, Bredbury, near Stockport* ... £5,795

SWANSEA.—For erection of new exchange buildings, Swansea. Mr. Charles T. Ruthen, architect, Swansea :—
D. Jenkins, Ltd. ... £27,99[illegible]
H. Wilcocks & Co. 26,758
A. N. Coles 26,541
E. Thomas & Sons 26,380
Lloyd Bros. 26,146
C. Marles 26,000
Waring, Cole, & Waring £25,800
W. & J. R. Watson 25,0[illegible]
J. & F. Weaver 23,400
A. J. Colborne 23,179
H. Billings & Sons, Swansea* 22,250

WROTHAM.—For enlargement to the Borough Green Council School, for Kent Education Committee. Mr. Wilfrid H. Robinson, M.S.A., architect :—
F. Pierce £1,182 9 4
S. Iggulden ... 968 17 0
Milton Bros.... 959 10 0
R. Tonge 950 0 0
C. E. Skinner 915 0 0
J. A. Davison 912 0 0
J. E. White & Co. 898 0 0
Friday & Ling 881 0 0
W. M. Burrows £872 0 0
F. & G. Foster... 866 0 0
W. H. Archer & Son 847 0 0
Curtis & Caine... 845 0 0
H. Dixon 837 0 0
J. Wood & Sons, Boughton, Monchelsea*... 793 0 0

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